KNOWING PRIMARY PHYSICAL EDUCATION MOVEMENT CULTURE

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This work or any part thereof has not previously been presented in any form to the University or to any other body whether for the purposes of assessment, publication or for any other purpose (unless otherwise indicated). Save for any express acknowledgments, references and/or bibliographies cited in the work, I confirm that the intellectual content of the work is the result of my own efforts and of no other person.

Signature:

Date: 4th December 2015

Abstract

Background: Mind-body dualisms create particular difficulties for researching and justifying learning and knowledge within PE practices. These issues are compounded in the UK by prevailing cognitivistic ideas of education, knowledge and learning. Crum (1993) suggests reconceptualising PE as movement culture as a potential solution to the limitations created by dualistic positions within education. How knowledge and learning within movement culture is positioned, however, was left underdeveloped by Crum. The aim of this thesis is to explore an embodied, action position on knowledge and learning, as a potential solution to this issue.

Purpose: This thesis is driven by two purposes. The first; to examine and discuss how John Dewey's theorising of knowledge and learning within experience provides a theoretical position on knowledge and learning within movement culture. The second; to utilise this position to explore how pupils' and teachers' actions within primary PE lessons constitute and negotiate the movement cultures within their school.

Findings: In adopting a position which dissolves mind-body dualisms, movement culture allows the practical work of PE lessons to be considered as contexts of knowledge production. This opens up our understanding of different ways of knowing in PE through pupils' epistemological 'action-in-PE-settings'. Rather than creating another hybrid of educational ideology by objectifying what to 'do' or 'know', movement culture keeps the 'who' of participation in PE practice in view. Such a position is achieved because pupils are seen as 'coming to know' through their immediate and continuous experiences of sports and physical activities both in PE and beyond the school gates. By dissolving traditional dualisms within educational ideology, movement culture allows ideologies and assumptions about learning in PE to be decoded and managed. It also provides a framework to explore subject-matter for learning and analyses some of the disconnections which exist within PE practice.

Conclusions: Reconceptualising PE as movement culture is not intended to create a logic of practice to which I claim PE should ascribe. In this thesis, movement culture offers a position from which to consider the continuity between PE and pupils' lives within and outside of the school gates. Such a standpoint can challenge our ideas as to what subject-matter could be within PE and the possibilities of learning outcomes other than those that focus on performance sport or bodily training for fitness. From a research perspective questions arise in relation to understanding very young pupils' experiences of knowing within PE and how learning and knowledge are embodied across other subject areas. Addressing such questions may help to support new understandings of learning and knowledge within schools that are concurrent with developing new methodologies and research tools. These may in turn support the continuing development of pedagogical practices.

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It is a challenge to find the words that equate to the support I have received in order to complete this thesis. It is also difficult to know at which point I should begin to consider the significance of the way different people have supported such a large project. I have drawn from the totality of my life experiences, whatever their manifestations, whilst I have grappled with the challenges this thesis has presented. With this I mind there are far too many people to credit here and also some characters, who I do not wish to mention, whose arrogance and prejudices have played a role in driving me to find a more fulfilling position from which to view the world. There are, however, some significant people who I would like to draw attention to, without whom, I would not have managed to have completed this thesis.

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Published Body of Work

1. Ward, G. (2014) Learning movement culture: Mapping the landscape between physical education and school sport, *Sport Education and Society*, (19)5, 569-604.

2. Griggs, G. and Ward, G. (2012) Physical Education in the UK: Disconnections and connections, *Curriculum Journal*, 23(2), 207-229.

3. Ward, G. (2012) Examining primary school Physical Education Coordinators' pedagogical content knowledge of games: Simply playing at this? *Education 3-13*, 41(6), 562-585.

4. Ward, G. and Griggs, G. (2011) Principles of Play: A proposed framework towards a holistic overview of games in primary Physical Education, *Education 3-13,* 39(5), 499-516.

5. Ward, G. and Quennerstedt, M. (2014) Transactions in primary Physical Education in the UK: A smorgasbord of looks-like-sport, *Physical Education and Sport Pedagogy*, i-first article, available at: http://dx.doi.org/10.1080/17408989.2014.923991

6. Ward, G. and Quennerstedt, M. (2015) Knowing in Primary Physical Education in the UK: Negotiating Movement Culture, *Sport Education and Society,* 20(5), 588-603.

These publications can be found in appendices 1-6.

Co-author Declarations

Appendix 7 contains supporting statements from the co-authors of the above publications. These testify to my lead role in the planning and writing of the corresponding publications.

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List of Terms

BERAEGfER	British Educational Research Association Ethical Guidelines for Educational Research
CE	Co-operative Education
CPD	Continuing Professional Development
DPA	Data Protection Act
DCMS	Department for Culture Media and Sport
DCSF	Department for Children, Schools and Families
DfEE	Department for Education and Employment
DfES	Department for Education and Skills
DNH	Department of National Heritage
QCA	Qualifications and Curriculum Authority
DfE	Department for Education
DCMS	Department for Culture, Media and Sport
EMA	Epistemological Move Analysis
FMS	Fundamental Movement Skills
HLTA	Higher Level Teaching Assistant
ITT	Initial Teacher Training
NCPPE	National Curriculum for Primary Physical Education
OFSTED	Office for Standards in Education
PCK	Pedagogical Content Knowledge
PDM	Partnership Development Manager
PE	Physical Education
PEA	Practical Epistemology Analysis
PESSCL	Physical Education, School Sport and Club Links
PESSYP	Physical Education, School Sport and Young People
PGCE	Post Graduate Certificate in Education
PPA	Planning, Preparation and Assessment
QTS	Qualified Teacher Status
SE	Sport Education
SLQA	Substantive Learning Quality Analysis
SSP	School Sport Partnership
TGfU	Teaching Games for Understanding

Chapter 1

Aims, Purposes and Research Questions

Functions and relationships between this thesis and the publications

My submission to meet the requirements for a PhD by publication consists of two areas of activity through which I aim to make an original contribution to knowledge. The first area of activity consists of a mixture of six conceptual and empirical research studies which have been published in peer reviewed journals of international standing. All these works have been published within the past five years and are listed on page 3. The second area of activity is constituted by this thesis, which represents a written commentary to demonstrate the coherence of this published body of research. In this thesis I present the aims, purposes and research questions which my published body of work address. In doing so, I employ this thesis to:

- locate the original contribution to knowledge of the published work within the research field
- examine and discuss the theoretical position employed in order to address the research questions and identify how the publications address these research questions
- demonstrate the methodological considerations involved in the research studies
- present the key findings from both the theoretical discussions within the thesis and the publications
- discuss the consequences of these findings for the research field and for primary PE practice

The following chapter summaries for this thesis aim to provide an overview of these functions identified above.

Chapter summaries

Chapter 1

In this chapter I locate my research amongst identified tensions within the current landscape of PE practice in England and within research fields investigating knowledge and learning in PE. I use this discussion to inform the aims, purposes and research questions for this thesis. Crum (1993) presents the reconceptualisation of PE as movement culture as potential means to overcome the limitations created by mind body dualisms. However, the positioning of knowledge and learning within movement culture was left underdeveloped by Crum. My ambition is to explore an embodied, action position on knowledge and learning, upon which an understanding of movement culture can be based. To realise such an ambition this thesis has two purposes. The first purpose is to examine and discuss how John Dewey's theorising of knowledge and learning within experience provides a theoretical position on knowledge and learning within movement culture. The second is to utilise this position to explore how pupils' and teachers' actions within primary PE lessons constitute and negotiate the movement cultures within a school.

Chapter 2

I seek a solution to the underdeveloped position on knowledge and learning within movement culture in this chapter. This leads me to consider John Dewey's solution for avoiding the privileging of educational ideologies through his conception of education as occupation. Such a solution provides a theoretical standpoint for Publications 1 and 2 which aim to address my first research question. Publication 1 examines the landscape between sport and PE and analyses movement culture as a potential solution to the nexus of education, health and sport discourses which trap and shape school practices. Publication 2 examines how these discourses create disconnections within PE practices and examines movement culture as a potential solution.

Chapter 3

I discuss the relations between learning as occupation and Dewey's theory of experience in this chapter. I argue this position provides a different ontological and epistemological understanding of what constitutes knowledge by locating it within the subjectivity of experience. I employ this understanding to consider Pedagogical Content Knowledge (PCK) as a means to understand teacher's positioning on knowledge and learning. In particular, how these positions constitute learning in games within primary PE. Publication 3 employs this standpoint and suggests that the structure of the primary school teachers' knowledge of games played an important role in the narrow curricula constitution of games learning within their schools.

A potential solution to this issue resides in the form of game-based pedagogical models. These are then examined from the position of learning as occupation. My analysis of the possibilities games may offer to learning as

occupation reveals their structural and contextual complexity. Publication 4 argues this challenge to primary teacher's expertise is often overlooked by games-based models. In response I present frameworks to support both the pedagogical and curricular transformation of games as subject-matter required by a models-based approach.

Chapter 4

This chapter presents a rationale for a sociocultural position that takes action as a point of departure for investigating learning within PE settings. Such an approach turns ontological debate about learning and knowledge into epistemological questions about how actions constitute learning. I argue the challenges for investigating learning thus become epistemological rather than ontological. In publication 5 I explore how actions-in-PE-settings shape and maintain the cultural dimension of learning with primary PE movement cultures. The findings of this research are investigated further in publication 6, which investigates how both pupils and teachers negotiate these movement cultures.

Chapter 5

I discuss the research methodology used in the empirical publications in this chapter. These studies attempt to address the first part of research question 1 and research question 3 of this thesis. I aim to identify the ontological and epistemological assumptions made within these research studies and how these have determined the research paradigm, research design, data collection tools and method of analysis.

Chapter 6

The findings of the research studies which constitute the main contribution of this thesis to the research field are summarised in this chapter. I present these findings within the theoretical discussions conducted in the preceding chapters in order to provide an overview of the functional relationship between the published body of work and this thesis.

Chapter 7

In this chapter I return to the three research questions posed and discuss how these are addressed through the theoretical discussions in this thesis and my research studies. In order to identify my contribution to knowledge I discuss the significance of these findings for the research field. I then open up this discussion to consider the wider significance of these findings for primary PE practice. In drawing conclusions from this discussion, I propose further research questions.

I will now introduce the research area and conduct a review of literature focussing on knowledge and learning within PE. I use my discussion of these to identify my aims, purposes and research questions.

An introduction to the research area

Physical Education (PE) is a prominent form of institutionalised compulsory physical activity for young children. Over the past 15 years the subject has been the focus of explicit government policy and funding streams. These have been operationalised in varied ways throughout the home nations of the UK, as have the development of individual national curricula. With these home nation variations in mind, in this thesis I will refer to the UK when looking at the broader landscape of PE practice and more specifically to England when researching local practices. Government attention has been brought to bear in the belief that PE has an important role in establishing healthy living habits and is a key foundation stone of national sporting success. Despite such attention Primary PE has been identified as an area in deficit of teacher's confidence and expertise to lead PE lessons. It is a growing area of educational provision that is being subcontracted to external providers such as sport coaching companies. Although being a regular feature of a young child's education, understanding what constitutes primary PE has received little attention from the research community. Such a void in our understanding suggests we assume that provision needs to improve without actually understanding the everyday learning cultures that exist within primary PE. The subject resides within an education system in which cognitivistic ideas of education, knowledge and learning prevail. These separations between mind and body create particular difficulties when discussing embodied and action centred

practices within PE. Such a context creates a very difficult position from which to discuss learning and knowledge, both within and beyond PE communities.

The current landscape of PE practice in England

My differing personal and professional encounters within PE mirror the many different perspectives people have of the subject. Throughout my career to date, I have met many parents, teachers and students, for example, who see PE as a means for talent identification and performance sport. When I first started teaching in schools I was responsible for establishing PE as an examination subject in which theoretical study continues to be examined through the disciplines of biomechanics, physiology and psychology (cf. OCR, 2015). I have experienced government policy describing PE as a means of instilling moral fibre into the young (cf. DNH, 1995) and solving pathogens of ill health, such as being overweight (cf. DfES/DCMS, 2003). At the time of writing the reigning political administration in the UK backs discourses of competitive sport which are reflected in the current iteration of the English primary PE curriculum (Griggs and Ward, 2013; Lavin, Mackinney and Swindlehurst, 2013). Murdoch (1990) and later Pope (2011) suggest how difficult it is to draw dividing lines between the discourses of sport and health within PE. This stems back to the subject's historic roots and complex relationships between these powerful discourses, particularly in relation to divisions drawn between the body and the mind.

A historical perspective of PE

Physical activity has been a historical feature of school curricula throughout the UK. Indeed, many modern forms of codified sports owe their origins from their inclusion in the school system of the late 18th and early 19th (Mangan, 1981).

During this time Muscular Christian ideals were particularly prominent and encapsulated a belief in the relationship between morality and the heathy condition and employment of a potentially sinful body. This promoted the adoption of sporting activities by schools and community groups in their bid to offer a rounded educational experience (Mechikoff and Estes, 2006). Within this context serious education was concerned with the acquisition of knowledge and the development of rational intellectual thinking through the study of defined forms of knowledge. Such dualistic thinking originates from the philosophical conclusions of the Enlightenment, particularly those by Descartes who made a distinction between mind and reality. These 'Cartesian' dualisms have pervaded our Western European understanding of knowledge and have thus created particular consequences for the status of practical subjects such as PE within our education system. Cognitivistic views of learning have historically privileged the studying of for example, mathematics and the sciences, and it is these subjects, which enjoy an integral place within traditional bodies of knowledge, which are considered to represent truths about the world (Young, 2014). This is an example of what O'Loughlin (2006) describes as a 'disembodied/embodied' divide within school curricula based upon the long held belief that the body does not have a role in cognition.

Kirk (2010) thus argues practical learning within PE has become demarcated for the fulfilment of more limited instrumental concerns for the body. Specifically, maintaining health and developing competence, in what he terms physical culture. Kirk (2010) suggests contemporary attempts to stake a less peripheral position on school curricular have been made through the 'Academicisation' of PE. This is reflected in the creation of qualifications such as

GCSE and ‘A’ level PE. In order to maintain cognitivistic parity with core curricula subjects, these forms of accreditation have based themselves upon ‘theoretical treatments’ such as kinesiology and psychology, contained within sports science disciplines (Morgan, 2006; p.98). Pupils thus study the science of moving, rather than PE practices. The absence of a secure home of a defined body of knowledge of subject-matter for PE heightens its exposure to various movement ideologies; for example, those which considered the subject a useful site for the development of ‘fundamental movement’ competences (Stodden et al., 2008), or as a place to exercise for health (Papastergiou, 2009). English government policy continues to view PE as a site for the achievement of instrumental health and sport outcomes (Lavin, Mackinney, Swindlehurst, 2013). Paul (1996) argues as a consequence PE has suffered from a ‘grandfather clock syndrome’ in which ideas about the subject have swung from one extreme to another, the pendulum never stopping in the middle or the same place for very long. For example, in the early twentieth century ‘Schools’ of gymnastics competed for dominance within PE. However, during the post war period of the 1950s, a mass influx of male teachers into the profession played a significant role in the central positioning of competitive sport (Kirk, 2010). We are now moving into an era in which PE is being looked upon to help prevent long term health concerns such as obesity, through increased participation in regular physical exercise (Tinning, 2015).

According to Kirk (2010) a shift towards the ‘sportification’ of PE (Collinet, et al., 2013) led to the growing dominance of team games, dominated by an enduring identity of the practice of ‘PE as sport techniques’. Teacher’s own socialisation within sport has aided the continual reproduction of this practice (Curtner-Smith, Hastie and Kinchin, 2008) and as a result, the ‘education’ of PE has been

subordinated by notions of developing healthy bodies (Wright and Burrows, 2007), couched within practices dominated by sports performance (Capel, 2007). Such practice is aimed at preparation for an adult future of regular physical activity (Green, 2014) and as a result the subject's instrumental and marginal role in school curricula has become solidified, particularly through national curricula and government policy such as the Physical Education Sport and Young People (PESSYP) strategy and the recent provision of the PE Pupil Premium (DCMS/DfES, 2014; DfE, 2014; DfES/DCMS, 2003).

PE as a captive agent within a sport-education-health nexus

According to Penney (2008) the exposure of PE to these political and professional discourses has trapped the subject within a "crowded and contested policy space" (p.35). When manifested within education policy and practice, sport and health discourses can serve to trap the subject within a sport-education-health nexus. Within this nexus each corner of discourse acts as a powerful attractor that competes to shape PE practices. Their power is generated through contemporary policy concerns such as declining performances of national teams, demands for a legacy to the London 2012 Olympic or tackling childhood obesity (Griggs and Ward, 2013). Workforce reform (DfES, 2003) has accompanied these policies opening up the delivery of, for example, primary PE to specialist secondary school teachers, Higher Level Teaching Assistants (HLTAs) and private sport coaches (Blair and Capel, 2008; 2011; Evans and Davies, 2014; Jones and Green, 2015). Griggs (2010; 2015) contends these personnel have been deployed within a context of pragmatic solutions reached in relation to wage costs, perceptions of expertise and utilitarian subject related outcomes. As a result, practices within PE, particularly in primary schools, have a historical legacy of involving the

acquisition of sports skills and the burning of calories, at the cost of a deeper understanding of human movement (Flintoff, Foster and Wystawnoha, 2011; Griggs, 2010; OFSTED, 2009).

Evans (2012) argues that performativity discourses implicit within sport-health policy discourses in PE create significant issues in relation to equity and inclusion within the subject. Green (2014) suggests these discourses also oversimplify the problematic linear relations drawn between PE and lifelong participation in physical activity. PE is thus positioned in which the sport-education-health nexus sets ambitious and conflicting expectations for the subject, to solve issues of adult inactivity and risk of obesity, contribute to the development of the moral fibre of young people and nurture sporting talents. These are required to be achieved within an educational context of equity and inclusivity, which Evans and Davies (2014) argue, creates a precarious future for the subject and those that teach it.

How might research trends in PE support future practice?

In a search for a more secure future, several research disciplines have investigated how PE practices may facilitate greater long-term pupil engagement. For example, Psychology has looked to explore and promote intrinsic motivation through the application of self-determination theory (Escartí et al., 2010; Ntoumanis, 2001) and look for links between competence in PE and physically active leisure time (Carroll and Loumidis, 2001; Hagger, et al.,2003). This field of research takes the performativity of the subject as a point of departure and thus emotional arousal and motor competence are seen as the solution to better quality PE experiences. However, if other points of departure are taken, such as learning

and knowledge development, different solutions are created. For example, within PE pedagogy, a field of research has developed through a search for formulating particular ways of teaching that can potentially define PE a site for understanding, social engagement and self-empowerment. This field has spawned the development of pedagogical models such as Sport Education (SE), Teaching Games for Understanding (TGfU) and Co-operative Education (CE). These are offered as a solution which provides a focus upon educational outcomes in order to overcome pupil disengagement (Kirk, 2013). This is believed to be caused by the narrow skills-based performativity of multi-activity programmes which have come to dominate PE curricula (Dyson and Casey, 2012; Haerens, Kirk and Cardon, 2011; Penney, 2013). Pope (2011) and Kirk (2010; 2013) for example, argue it is models-based practice which will secure the future place of PE on school curricula by producing the mutually supportive pedagogic relationships required at the complex interface between sport, health and PE (Thorburn and MacAllister, 2013).

However, Casey and Dyson (2009) and Harvey, Cushion and Sammon (2014), for example, demonstrate the complexities and challenges involved in models-based practice for both experienced and beginning teachers. This may be why there is a distinct absence of recent research reflecting any consistent and regular use within UK secondary and primary schools (Almond, 2010). When placed in a context where initial teacher training in the UK has been taken over by schools, there is little cause to believe that models-based practice will be championed by the institutions in which these approaches have no foothold. Models-based practice as a solution for the future role of PE subsequently appears limited to research, rather than PE practice in schools.

Stolz and Pill (2014a; 2014b) suggest this latency between research on models-based practice and the teaching of PE within schools is created by a theory-practice divide. They argue that the overriding occupation of PE teaching is concerned with attending to the everyday contextual realities such as the weather, pupil behaviour and facilities. Within these contexts, PE teachers see 'good' teaching and learning as primarily a form of practical wisdom, born out of experience. In doing so, they argue educational practice becomes separated from theory and makes it difficult for practitioners to see the value of theoretically devised models-base teaching. Stolz and Pill (2014a; 2014b) believe that it is this constant occupation with managing contextual challenges, in order to achieve tangible outcomes for pupils, that creates an intrinsic problem in developing models-based practice. To become significant to PE teachers, they argue that these models have to provide equity with their current practice. Unfortunately, no approach can provide such a guarantee and as a result the adoption of models-based practice within school teaching looks set to remain in the balance.

Tinning (2010) argues no 'Holy Grail' of PE pedagogy exists and any practice will always be defined by the realities of school facilities and class sizes. The future for PE cannot lie solely in the prescription of pedagogical practice it may also exist in understanding these contextual dimensions of PE pedagogy. Approaching PE in this way has opened up other fields of research and later in the chapter I will explore these fields in greater depth. In doing so, I will discuss how taking alternative points of departure when researching PE practice can offer new insights and open up new thinking about knowledge and learning. One such area of research has focussed upon the sociocultural aspects of learning. This area of research reveals the complexity of knowledge and learning, beyond the

instrumentality to which PE is subjected to within the Sport-Education-Health nexus (Whatman and Singh, 2015).

Summary

Through my discussion of discourses within the sport-education-health nexus I can identify four key challenges for PE. These challenges centre on the complexity of knowledge and learning that exists within PE. The first two are created by tensions between PE and dominant discourses as to what constitutes education and knowledge. The second two are located within the operationalisation of the subject within schools:

1. *Mind-body dualisms exist within notions of what constitutes 'education'.*
   Ideas about education in the UK make distinctions between theoretical and practical activities. The development of intellectual thinking through the acquisition of theoretical knowledge remains superior to practical pursuits such as PE.

2. *PE is not defined by a traditional body of knowledge.*
   Unlike traditional academic disciplines, PE cannot be located within traditional bodies of knowledge and has historically drawn its subject matter from sport. Conflation between PE and sport has historically limited pedagogy to the acquisition of traditional sport skills, aimed at developing performativity and future adult participation. Attempts at the academicisation of PE have resulted in sports science programmes of study which rely on studying PE from the perspective of established bodies of knowledge.

3. *PE practices are exposed to instrumental sport, education and health discourses.*
   PE has been tasked with a supporting role to more intellectual school subjects defined by traditional bodies of knowledge. This peripheral contribution to providing a 'rounded' education experience has led to its exposure to instrumental policy discourses such as training pupils to be physically active adults.

4. *PE practices are highly related to environmental contexts*
   Some PE research communities have promoted models-based practice as a means to define PE's educational contribution and support its place on school curricula. The significant gap between PE research and PE practice, however, seem to have limited the adoption of these models within schools. PE practices continue to be defined by the realities of class sizes and school facilities. The move to widen pedagogical approaches cannot rely upon control of teacher training and professional development. Sociocultural approaches to understanding PE practice provide alternative ways of thinking about knowledge and learning in PE which may also support the development of PE practices.

This thesis aims to find a theoretical position which avoids these particular challenges. One potential solution to the four issues I have identified resides in the idea proposed by Crum (1993) to reconceptualise PE as 'movement culture'. Crum's sociocultural understanding of knowledge and learning, positions PE and the activities within it as cultural practices. According to Crum (1993) movement cultures are created through peoples actions in which they 'realise and experience important values, such as recreation, health, adventure, excitement, togetherness, performance, and self-realisation' (p.341). He suggests that people act with differing purposes and motivations to achieve this realisation, which create different types of movement cultures. These change and evolve as culture does in wider society and thus, rather than become detached from movement culture outside, this approach may help to keep PE pedagogy relevant to young people's lives. This perspective of PE helps us to understand the subject as an organic cultural activity that is not solely shaped by sport-education-health discourses contained within PE policy, curricula and teaching approaches. Knowledge and learning within PE are also shaped by pupils and teachers and their lives outside of the school gates. In this thesis I argue that a sociocultural approach such as movement culture offers a potential solution to the issues I have identified above.

In chapters 2 and 3 of this thesis I examine in detail the possibility movement culture offers in helping us to reconsider the traditional subject-matter of PE and how this is positioned within pupils' immediate PE experiences. Rather than viewing learning as a solely psychological phenomenon and by building on other sociocultural approaches, I argue movement culture offers a point of departure in which learning can be considered as cultural action. This approach has the potential to allow researchers and teachers to get close to learning as it occurs within the reality of everyday PE contexts and understand its social, individual and institutional dimensions. In chapter 4 I examine how PE movement cultures are constituted, maintained and negotiated through PE practices. In order to present an understanding of how movement culture may provide such as position, I now conduct an overview of the field of research on knowledge and learning within PE.

The aim of this review is to inform the purpose and aims of my thesis, from which I have developed my research questions. I present these at the end of this chapter. In conducting an overview of research on knowledge and learning within PE I draw from Sfard's (1998) 'acquisition' and 'participation' metaphors of learning. Very few learning theories solely privilege acquisition or participation. However, Sfard's (1998) division helps us to understand how underlying assumptions about knowledge and learning serve to influence what has been explored and what has been found within PE learning research. This overview enables me to identify where specifically my thesis aims to contribute to the field of sociocultural research on learning within PE.

Positioning of this thesis within the field of research on knowledge and learning in PE

Seeking a position on learning which will encompass mutual relations between community life and school, mind and body requires us to first consider the limitations of traditional views of knowledge and learning. These are best described through Sfard's (1998) 'acquisition metaphor' which represents learning theories that conceive knowledge as something external to be acquired and internalised through passive reception or active re-construction. Within the field of PE this approach has been adopted in behaviouristic and cognitivist literature and is reflected within constructivist and cognitivistic theories of learning (Quennerstedt, Öhman and Armour, 2014). In contrast this thesis approaches learning from Sfard's (1998) 'participation metaphor' which aims to explore knowledge as a part of PE practice where learning is concerned with membership of a discourse, activity, or community of practice. Within PE this approach has drawn particularly from the work of Lave and Wenger (1991) to develop a situated understanding of learning (Rovegno, 2006, Sinelnikov, 2009; MacPhail, Kirk and Kinchin, 2004). Rather than focusing attention upon knowledge, these sociocultural learning theories, aim to understanding learning via concepts such as communities of practice and legitimate peripheral participation. However, as a consequence, Hodkinson, Biesta and James (2007) argue learning tied to the contexts in which pupils are situated and any understanding developed cannot be transferred between different contexts. To achieve this transfer, they argue our theoretical perspective of knowledge has to shift from being 'acquired' and 'possessed' to knowledge as 'action'. Quennerstedt, Öhman and Öhman (2011) argue the work of the pragmatist philosopher John Dewey allows such a move, in particular his theorising of learning as 'knowing' and 'becoming'. This thesis aims to build upon such a position, by utilising Dewey's transactional, action centred

understanding of learning that dissolves divisions between mind and body, internal and external, which situated perspectives often include. Dissolving such dualisms are important when aiming to understand the practical and embodied learning which takes place within PE contexts (Evans, Davies and Rich, 2009; Light and Kentel, 2015; Quennerstedt, 2013a and 2013b).

Using acquisition and participation metaphors to consider learning and knowledge within the research field

Divisions created between knowledge and learning, mind and body, teacher and pupil, are reflected within PE research fields. These have traditionally been concerned with issues of teaching and curriculum and have encompassed, for example, analysis of the relationship between teacher behaviour and pupil achievement and the cataloguing of active learning time within PE lessons (Van Der Mars, 2006). Accompanying this approach there has been a long tradition of behaviouristic research within the field of motor skill acquisition (Wallian and Wei Chang, 2006). These approaches draw from Sfard's (1998) 'acquisition' group of learning theories and within PE and have focussed upon observable bodily behaviour in order to take a functional approach to teaching. For example, Chiviacowsky and Wulf (2005) examine the role of self-controlled feedback and Keetch and Lee (2007) demonstrate the benefits of self-paced practice in motor learning. Such work makes distinctions between the mind and body, by viewing the body as separate from, but governed by, the mind. This idea of the mind determining what the body does is a central feature of constructivist research within PE. Such a perspective on learning takes learner cognition as a point of departure. It draws attention to the role of prior knowledge and engagement in learning within the process of pupils' active construction of knowledge. In doing so, this research field tends to focus upon the importance of the structure and

management of learning environments in relation to guiding pupils towards critical aspects of the task (Casey, 2014; Chen et al., 2012; Solmon, 2006). Such work has provided insights into how peers can influence learning outcomes within PE and the pedagogical challenges associated with misunderstandings and resistance when teachers learn to teach (McCaughtry et al., 2004; Ward and Lee, 2005).

Quennerstedt (2013a) argues that research reflecting the acquisition metaphor of learning has tended to oversimplify PE practice. He argues research within this genre limits knowledge and learning to areas of information processing, conceptual development and cognition. To address this limited view of learning, researchers within the acquisition field have become influenced by the emergence of new concepts such as situated perspectives on learning. This has led to the recognition of wider and complex processes that influence learning through the emergence of ecological models of learning (O'Connor and Alfrey, 2015; Renshaw et al., 2010). In order to focus upon the specific contextual aspects of learning, the use of situated learning theory within PE has explored the relations between individuals, activity and environment. This move from an acquisition position on learning, to a participation position, is clearly marked by Kirk and Macdonald's (1998) work on situated learning within PE. This field of research draws attention to the contextual quality of learning, its social dimensions and importance of meaningful membership of social groups (MacPhail, Kirk and Kinchin, 2004). For example, MacPhail, Kirk and Griffin (2008) employ situated perspectives of learning to make an important contribution to our understanding of the relational and interdependent dimensions of developing skills within games activities. Approaching learning in this way has also enabled researchers such as Kirk

(2012) and Metzler, Lund and Gurvitch (2008) to focus attention upon the role of authentic participation within social groups in PE. Such work has helped to opened-up a wide area of research which has a strong theme of understanding learning as a result of teachers' use of pedagogical models such as SE (Kirk, 2012; Wallhead and O'Sullivan, 2005, CE (Goodyear, Casey and Kirk, 2014) and TGfU (Tan, Chow and Davies, 2012).

By tending to privilege teacher behaviour and focus on the subject-matter pupils learn, Quennerstedt, Öhman and Armour (2014) observe that this field of research does not necessarily analyse 'how' pupils learn. In focussing upon the social structures within specific learning contexts, this field of research also has difficultly in revealing how learning transfers between different contexts. According to Rink (2001) it is the attempt to produce recommendations for practice that causes such research to use learning theories to prescribe teaching practices, rather than explore learning. This issue stems in a large part from the difficulty in conceptualising what constitutes learning within PE. It is a problem which arises from mind-body dualisms that exist within prevailing thoughts about knowledge, learning and education (Dewey and Bentley, 1949/1991). From a philosophical standpoint, scholars such as Reid (1996), Carr (1981) and Davies (1995), have considered the type of knowledge that PE develops, in particular, the relations between traditional notions of knowledge and practical knowledge. Wright (2000b) and Garrett and Wrench (2015), for example, emphasise the difficulty with using the paradigms of theoretical knowledge and practical reasoning when understanding learning within PE. They argue applying such concepts detract from the full meaning of learning within practical contexts, in particular the human endeavour and personal experience involved. Hay (2006) suggests focussing on

the idea that PE develops propositional knowledge invokes mind-body dualisms. These act to reinforce the sole contribution of PE to matters of the body in contrast to the intellectual pursuits of subjects such as mathematics and science. Nyberg and Larsson (2014) explore the challenge of understanding the 'what' of learning within PE. They conclude that pragmatist standpoints of 'knowing', such as those proposed by Carlgren, Forberg and Lindberg (2009) and Ryle (1949/2009), offers a means to dissolve these problematic mind-body dualisms. In doing so they argue pupils' actions within PE can be understood as embodied expressions of how their bodies think or how their minds are their bodies.

Sociocultural perspectives of learning and knowledge

Light and Kentel (2015) demonstrate how seeking a wider understanding of knowledge and learning, requires embracing the complexity of learning within physical activities. Other research communities have similarly aimed to widen our understanding of learning and knowledge developed in PE contexts. These have investigated the complex social and institutional dimensions of learning within PE by drawing from learning theory developed, for example, by Vygotsky, Bourdieu, Bernstein and Pragmatism. By taking epistemological assumptions derived from constructivist theories, complex learning theory (Light, 2008) has also been employed within PE to discuss learning in relation to the uncertainty, multiplicity and contradiction of postmodern times (Atencio, Jess and Dewar, 2012; Jess, Keay and Carse, 2014; McEvilly, Veheul and Atencio, 2015). Other sociocultural perspectives have honed in on the embodied aspects of learning, for example, Evans, Davies and Rich's (2009) seminal work, utilises Bernstein's decontextualising principle in pedagogic discourse. They argue that integrating this idea with the concept of corporeal device avoids some of the dualisms created

within previous attempts to understand and explore the bodily aspects of learning. Nyberg and Larsson (2014) similarly attempt to avoid dualistic notions of thinking about knowledge and learning within PE. Whilst the objectives of learning amongst PE teachers may not be clear, they argue pupils still learn, however, in the form of a hidden curriculum. Such a position enables researchers to consider knowledge production other than official subject-matter such as learning about gendered activities (Azzarito and Katzew, 2013, Lam and Priyadharshini, 2015; Larsson, Quennerstedt and Öhman, 2014), gendered abilities (Rønholt, 2002), what is deemed a healthy life style (Webb, Quennerstedt and Öhman, 2008) or what kind of human beings pupils should be or become (Evans and Davies, 2004; Hunter, 2004; Wright and Burrows, 2007). This work helps practitioners to consider how alternative positions on what constitutes knowledge within PE require alternative pedagogies (Fitzpatrick and Russel, 2015).

These important contributions, to what Shilling (2010) terms 'body pedagogies' research, has also branched into dissolving traditional mind-body dualisms in relation to knowledge production. Andersson, Östman and Öhman (2013) for example, draw from a variety of theories in order to achieve this position. They use Dewey and Bentley's (1949/1991) transactional understanding of learning in order to enable pupils' and teachers' actions to be used as an epistemological point of departure. Rather than viewing learning and knowledge as something which exist only in our heads, it is through continuous interaction, which Dewey and Bentley (1949/1991) call 'transaction', that habits are formed and transformed. It is these habits which shape our continuous 'knowing' of the world. This position enables researchers to discuss how individuals and their surroundings transform, and are transformed, by each other in ongoing practices.

Quennerstedt (2013a and 2013b) for example, examines how pupils' and teachers' actions within PE produce and reproduce knowledge in different ways. The transactional approach to analysing learning taken by this area of research provides a particularly useful epistemological position. This has the potential to enable us to understand learning as a cultural practice, as active participation within movement cultures.

Research into primary PE practice

Studies utilising transactional and sociocultural approaches in researching learning within PE contexts is relatively underdeveloped in relation to other sociocultural literature. This asymmetrical pattern within the research field is also reflected in the study of primary and secondary school PE practices. Indeed, it is evident that a significant bias towards the secondary sector is clearly present. Studies which have been located within primary school PE, focus predominantly upon the delivery of the subject by non-specialist teachers (Harris, Cale and Musson, 2012; Morgan and Bourke, 2005; 2008; Morgan and Hasen, 2008; Sloan, 2010) and the subcontracting of curriculum delivery to third parties (Blair and Capel, 2008; 2011; Griggs, 2010). The results of a vast number of medical and exercise intervention studies are available, however, these only locate and measure the physiological aspect of PE (Harrison, et al., 2006; Warburton and Woods, 1996) or attempt to understand how to make fitness programmes work in primary schools (Hodges, Hodges-Kulinna and Kloeppel, 2015). Research couched in psychological theory has also been directed at primary aged pupils within PE lessons. These have aimed to register the effects of interventions on psychological well-being (Escarti et al., 2010). Sociological investigations into gender reproduction within primary PE practices are in evidence (Shropshire,

Carroll and Yim, 1997). However, very little research has focussed specifically upon everyday primary PE practices, particularly how pupils and teachers actions constitute knowledge and learning. Research which does exist, continues a trend in focussing upon teaching and the use of alternative pedagogical approaches (Fletcher and Mandigo, 2012; Garrett and Wrench, 2008; Jess, Keay, and Carse, 2014, MacPhail, Kirk and Griffin, 2008) and understanding children's perspectives of these practices (MacPhail and Kinchin, 2004). The majority of work within this area focusses upon the relations between specifically informed forms of teaching and associated learning outcomes. Recent work has shifted this focus from teaching to pupils' personal experiences of PE and school-based physical activity (Everley and Macfadyen, 2015; McEvilly, 2015).

It is evident that there is a paucity of research addressing primary PE practice. In particular, a limited picture of how everyday teachers' and pupils' actions create and maintain knowledge and learning within PE. It also demonstrates how research fields investigating PE practices have approached the problematic nature of knowledge and learning. Some research fields focus on developing PE practices by aiming to look at differences in pedagogical approaches. This research has tested interventions in an attempt to draw attention to quality teaching and learning outcomes. Other research fields aim to chart problems within PE and produce findings and theoretical ideas that support reflection and new thinking. Within this latter area, sociocultural approaches to understanding learning provide valuable insights into the social, individual and institutional dimensions of learning (Quennerstedt and Larsson, 2015). However, researching learning within PE practices is particularly difficult because it is practical and embodied. Research which constitutes learning as action such as

that achieved through transactional perspectives, provides an alternative position from which to pose questions about learning and knowledge. Taking action as a point of departure creates an epistemological position on learning which can allow the researcher to get close to learning as it occurs and continues within the everyday practical activities of PE practices. This provides an opportunity to understand the interplay between the social, individual and institutional dimensions of learning and overcome traditional cognitivistic notions of knowledge and learning.

Purpose and research questions

It is evident from the overviews of both the context of UK school PE and the fields of research on knowledge and learning in PE, that mind-body dualisms create particular difficulties for researching and justifying PE practices. These difficulties are compounded by prevailing cognitivistic ideas of education, knowledge and learning. Crum (1993) presents the reconceptualisation of PE as movement culture as potential means to overcome the limitations created by these dualistic positions. However, the positioning of knowledge and learning within movement culture was left underdeveloped by Crum. In this thesis my ambition is to explore a possible solution to this issue, by seeking an embodied, action position on knowledge and learning, upon which an understanding of movement culture can be based. I aim to examine how taking action as a point of departure turns ontological debate about learning into epistemological questions. More specifically questions that focus upon the exploration of what constitutes learning and knowledge within everyday primary PE practices. To realise such an ambition, this thesis has two purposes. The first purpose is to examine and discuss how John Dewey's theorising of knowledge and learning within experience provides a

theoretical position on knowledge and learning within movement culture. The second is to utilise this position to explore how pupils' and teachers' actions within primary PE lessons constitute and negotiate the movement cultures within a school. To achieve these purposes I aim to address the following research questions:

1. *How can reconceptualising PE as movement culture overcome the reproduction of disconnections within the subject and support a coherent exploration of sport as subject material?*

   This question is addressed by Publications 1 and 2.

2. *How does an analysis of practising teachers' Pedagogical Content Knowledge (PCK) and models-based practice designed to support the teaching of games, develop our understanding of the positioning of games as subject-matter in pupils' PE experiences?*

   This question is addressed by Publications 3 and 4.

3. *What does the dissolution of mind-body dualisms reveal about learning within everyday primary PE movement cultures?*

   This question is addressed by Publications 5 and 6.

Chapter 2

Dissolving Mind-Body Dualisms

Introduction

In chapter 1 I introduced Crum's (1992; 1993; 1995) suggestion to reconceptualise PE as movement culture, in which learning is considered cultural action. I now aim to address the first purpose of this thesis; to examine and discuss how John Dewey's theorising of knowledge and learning within experience provides a theoretical position on knowledge and learning within movement culture. I begin this task by discussing the challenges created when theorising the 'education' of PE. In doing so, I identify how educational ideology can be reproduced with PE by confusions created when attempting to develop a rationale for the 'education' of PE. As a solution to this confusion I employ Quay's (2014) framework of conflicts and ideologies generated through his use of Aristotle's four causes of materiality; formal, material, final and efficient. I then look to Dewey's solution of education as 'occupation' as a means to avoid such ideological conflict.

Education as occupation requires the dissolution of traditional dualisms between internal and external, body and mind by viewing learning as continual interaction within the world. In this chapter I examine this position using Dewey and Bentley's (1949/1991) consideration of the mutual relations between subject-matter and pupil. Such work enables me to critically analyse the traditional objects of learning in PE and present a case for Crum's sociocultural reconceptualisation of PE as movement culture. I argue the position of movement culture avoids issues created by the objectification of human movement by allowing a plurality of

interpretations, in which pedagogy serves to aid the exploration of meanings through the relations between actions and consequences. My exploration of the relations between a transactional understanding of learning and movement culture provides a solution to the underdeveloped position on learning and knowledge within movement culture. Such a standpoint provides a theoretical context for publication 1 which uses movement culture to explore sport as subject-matter in PE. In publication 2 I also employ movement culture as a means to solve issues created by disconnections within primary PE. These publications aim to address my first research question; how can reconceptualising PE as movement culture overcome the reproduction of disconnections within the subject and support a coherent exploration of sport as subject material? In these publications I argue that reconceptualising PE as movement culture is a potential solution to competing discourses about the 'education' of PE.

Theorising the 'education' of PE

Scholars continue to debate theoretical positions which reveal the educational value of PE (Arnold, 1979; Best, 1978; Carr, 1997; Ergas and Martin, 2014; Reid, 1997; Stolz, 2014b). In order to explore the usefulness of reconceptualising PE as movement culture it is necessary to first consider the issues created by previous attempts to theorise learning and knowledge within PE. In particular, those which have attempted to address the issues created by traditional Cartesian divisions between the mind and body. Efforts to dissolve these dualisms help reveal the difficulties faced by the body within PE, in particular, the need to consider the danger created when such powerful discourses objectify the bodies and movements that they make.

The seminal work of Arnold (1979) is universally employed by government and professional bodies (cf. AfPE, 2008) to demonstrate three key ways in which PE can contribute to education; 'about', 'through' and 'in' movement (Arnold, p.168). However, as Whitehead (2013) argues this is not necessarily a sound framework upon which to justify the location of PE within school curricula. She believes when claims are made that PE educates 'about' movement, it is 'grandiose' to suggest that propositional knowledge (Parry, 1998) in all its complexity is effectively "presented, understood and learnt" (p.27). Similarly, when considering the claim that PE can have an illustrative role for wider educational learning or education 'through' movement, Whitehead (2013) suggests this merely reinforces instrumentalism of the subject by reducing it as a means to an end. She concludes that education 'in' movement provides the strongest platform to justify PE as education. However, this is not in Arnold's form as initiation into culturally relevant activities. Rather it is the aspect of "nurturing individual potential" (p.31) that she believes identifies PE's unique contribution to education. According to Larsson and Quennerstedt (2012) such a position shifts this debate towards a phenomenological field of understanding human movement which views humans and their world as a unified 'whole'. Whitehead's (2013) monist position dissolves the boundaries between cognition, emotion, the body and the environment. PE, particularly in the form of 'play', thus becomes located in its unique position of supporting a celebration of our bodily place in the world (Keen, 1970; Meier, 1980). Whitehead builds upon this position to create her argument for reconceptualising PE as 'Physical Literacy' (Whitehead, 2001; 2005; 2007; 2013).

Unfortunately, the identification of the body and the cognitivist aspect of literacy in its title immediately create reservations of a slippage back into a dualist position (Larsson and Quennerstedt, 2012). This withstanding, Whitehead (2013) articulates the universal importance of interaction with the environment through movement, and it is this embodied aspect of our humanity which must never be denied or overlooked. Such use of a monist position aims to reunite the separation of mind and body within national curricula discourses and PE practices, in order to realise and essential value of PE (Sprake and Walker, 2015; Whitehead, 2013). However, Larsson and Quennerstedt (2012) argue such an approach limits the debate to a philosophical understanding of human movement because it simply swaps a dualist perspective with a monist position. They argue "physical literacy does not break free from a notion of a pre- or non-discursive commonly shared body" (p.294) because phenomenological theory foregrounds bodies ahead of sociocultural influence, rather than being "mutually entangled in a simultaneous process" (p.294). In doing so the sociological work of race, gender and ethnicity upon bodies are overlooked and thus a dualist perspective is returned to in which patriarchal ways of moving are privileged (Larsson and Quennerstedt, 2012; Barad, 2003; Sullivan, 2001).

Evans, Davies and Rich's (2009) exploration of corporeal of discourses within education, reveals the danger of objectifying particular bodily discourses within PE practices. Such a position is achieved by focussing attention upon the theorising of the body within culture in order to understand its physical presence as both 'meaning-making' and 'meaning-taking', as a site of "recognition, rejection and despair among teachers, peers and friends" (p.402). Quennerstedt (2008b) employs a similar position by demonstrating how a sociocultural standpoint can

support greater criticality of prevailing pathogenic health discourses within PE practices (cf. Quennerstedt, Burrows and Maivorsdotter, 2010).

These understandings help to expose the vulnerability of PE practices to the reproduction of ideologies and beliefs about what counts as PE (Quennerstedt, 2013b). Avoiding such practice requires a wider perspective of education, one which exposes the underlying ideology of these beliefs and ideas. This can help our understanding of the values laden within the content, purpose and relationships of such practices (Biesta, 2011). A potential structure for developing such understanding is presented by Quay (2014) who identifies four core causes of educational confusion and conflict. When positioned in relation to one another these reveal how ideas and beliefs can determine the content and practices of education. Such a position enables us to see how these are reflected within the competing discourses within the sport-education-health nexus. Understanding the underlying ideology within such discourses helps to demonstrate the need to find other possibilities for thinking about PE which override ideological tensions. In this chapter, I am looking for a position which can provide a coherent position as to what counts as learning in PE that dissolves the problems created by mind-body dualisms and avoids the danger of objectivising the body and its movements.

Making sense of educational ideologies

Prevailing interest groups, competing for educational reform, privilege particular relations between pupils, subject-matter and teaching. Quay (2014) argues these materialise into definable ideologies that aim to steer education towards particular purposes. Pedagogical practices within schools will always be subjected to particular purposes because they form part of a prominent feature of

the political landscape. However, according to Quay (2014) locating the educational value of PE upon such ideological thinking bases justification of the subject and its practices on the whim of changing political thinking, rather than a coherent position on knowledge and learning. His analysis of the tensions between these ideologies and use of Dewey's solution of education as 'occupation' provides a useful theoretical position to consider learning and knowledge, particularly within movement culture.

Quay (2014) uses the four Aristotelian ontological causes of reality (material, formal, final and efficient) to develop Dewey's (1902) analysis of 'traditional' and 'progressive' education. In doing so, he produces a framework of two conflicting dimensions within education; child vs curriculum and individual vs social culture. These create four ideological camps; Scholar Academic, Social Efficiency, Social Reconstructionist and Learner Centred (refer to Figure 1). The child vs curriculum opposition represents the material (child) and formal (knowledge) causes of educational confusion. When applied to the sport-education-health nexus, these help to expose the ideology within pedagogical traditions, such as 'educational gymnastics' and 'gymnastics as sport'. Whereas the former privileges the child over the curriculum, the latter places performance in competitive forms of gymnastics over the child. However, other discourses within the sport-education-health nexus, for example, argue that PE should solve the ills of a growingly sedentary population (Gard and Wright, 2001) and generate socially useful citizens (Laker, 2001). These illustrate the second conflict between individual nature vs social culture that represent the efficient (individual) and final (society) causes of confusion within education.

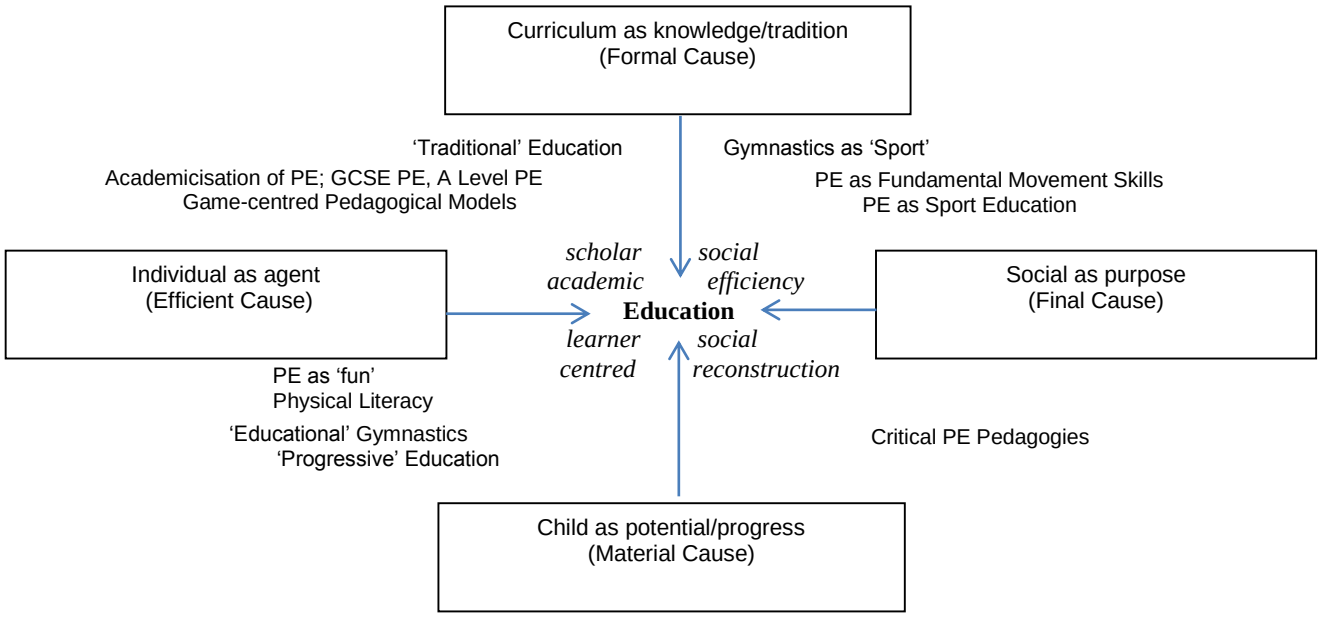

Figure 1. Curriculum ideologies as constituted by 'formal' and 'material', 'final and 'efficient' causes with located examples of competing sport-education-health nexus discourses (adapted from Quay, 2014; p.162)

Four competing ideologies are constituted through the intersection of these four causes and conflicts. This reveals that the ideology centring on, for example 'learner centred' education, which is based upon beliefs structured by the privileging of the child as material cause; their capability to learn and grow, and prioritising the child as the key agent in actualising these capabilities (Schiro, 2008). Quay (2014) argues these intersecting causes of conflict confuse our ability to understand the wholeness of education such as the position theorised by Dewey which aims to co-ordinate the "factors which proceed from the make-up, the psychological constitution of human beings, with the demands and opportunities of the social environment." (Dewey, 1936 cited by Quay, 2014 p.161). Quay (2014) concludes such a standpoint helps to illustrate "the character of each curriculum ideology, each being conditioned chiefly by an emphasis on two causes above the others. As such it points to a way of understanding the conflict engulfing them all" (p.162).

Decoding ideologies within the sport-education-health nexus

Quay's (2014) framework allows us to decode the main assumptions about knowledge, learning and the purpose of education that constitute the competing discourses within the sport-education-health nexus. For example, in tasking PE to produce active healthy bodies that will not burden National Health Systems, PE as 'health' discourses align with the final and efficient causes of social efficiency ideology (Gard and Wight, 2001). PE as 'sport' discourses which privilege participation in mainstream sports with a performativity motive, similarly lie within the ideology of social efficiency (Evans, 2012; Kirk, 2010). These sets of beliefs converge on pedagogical practices that aim to create sports participants of the future who will contribute to the success of national sporting teams (DCMS/DfES, 2014; HM Government, 2012). As a result of competing within these sports, it is believed pupils are inculcated by character forming experiences. These are said to imbue them with desirable social attributes that will bolster their contribution to a productive and healthy society (Sandford, Armour and Warmington, 2006).

Quay's (2014) framework also supports our understanding of different trends within PE practices and recent additions to the pedagogical tools being taught to student teachers and promoted amongst PE teachers. Sport Education, for example, encourages teachers to use competitive sport as a means to "…educate students to be players in the fullest sense and to help them develop as competent, literate and enthusiastic sportspeople" (Siedentop, 1994, p.4). Such a position privileges sport as subject-matter and participation in competitive sport as a desirable purpose of human activity. In ascribing outcomes which focus on being able to contribute purposively to the reproduction of sport, this pedagogical

tool appears to position itself within social efficiency ideology. Similarly, calls for PE to be concerned with the acquisition of Fundamental Movement Skills (FMS), that are required to competently play adult or junior versions of sports and as a desirable feature of society, would also align with social efficiency ideology. However, game-centred approaches to teaching on the other hand pursue more learner centred ideology by directing teachers to pedagogical practices that privilege the child as the key agent in their potential to progress in their game play (Oslin and Mitchell, 2006; Renshaw, et al., 2015). This is generated through their understanding of skills and tactics involved in playing the highly valued tradition of games as subject material within PE. Such approaches therefore tend to reflect more traditional scholar academic educational ideology.

Aligning with such scholar academic ideology by adopting the discourses of 'academicisation' also features within PE practices (Kirk, 1992; p.164; 2010; p.6). This has resulted in the alignment of PE teacher training with degree level study and has also led to the proliferation of GCSE, BTEC and 'A' Level qualifications. This area of PE practice differs significantly from other curriculum subjects in that they retreat to the 'theoretical treatments' of sports science (Morgan, 2007; p.98) rather that furthering the exploration of human movement, for example, as a sociocultural phenomenon. This is not surprising given the difficulties that exist in defining the what-aspects of the subject (Nyberg and Larsson, 2014). New territory in PE practices is gradually being explored through critical pedagogical approaches which tasks teachers with demystifying the dominant ideology for pupils and reveal the power relations to which they are exposed (Fitzpatrick, 2013; Smyth, 2011). Within PE, however, this is limited to social critical research, particularly within teacher education and exists as a smaller foothold in the

promotion of social reconstruction ideology (Azzarito, 2010; Dowling, Fitzgerald and Flintoff, 2013; Sicilia-Camacho and Fernández-Balboa, 2009).

Analysis using the four causes of educational confusion can also help us to understand incoherence within a set of particular discourses. For example, models of 'Learning Styles' are couched in learner centred ideology whilst in practice they are employed to support any of the other three ideologies depending upon the purposes to which this approach is set (Coffield, 2008). It is analysis of this incoherence which undermines the credibility of pedagogical practice based upon this conception of learning (Sharp, Bowkerb and Byrne, 2008). More specifically, within PE we see similar incoherence within health discourses which, for example, may purport to value a child's potential to take charge of their health, whilst at the same time utilising the claimed certainties of an obesity epidemic to privilege the social purposes of being fit and healthy (Gard, 2010). Some ideologies such as PE-as-sport and PE-as-education compete directly through social efficiency and learner centred ideologies because they do not share any causes in common. On the other hand, some ideologies can be paired through one shared cause. For example, educational gymnastics and scholar academic both place credence on a pupil's agency to learn over the social purpose of their learning, while critical pedagogical approaches and Sport Education, for example, have common ground in the privileging of the social purpose of their pedagogical practices. In an attempt to step across the divide of direct ideological opposition, some pedagogical practices can seek a shared cause. Within the domain of pedagogical models in PE, hybrids have begun to be developed that incorporate the social efficiency ideology of Sport Education with the learner centeredness of games-centred learning (Hastie and Curtner-Smith, 2006). These are, however,

an exception to the rule as they remain limited to pedagogical research rather than existing within regular school teaching practices (Stran and Sinelnikov, 2012).

Despite such crossing of the divide between ideologies within PE research, at the level of wider educational debate all four key educational ideologies remain in conflict. This is due to their differences within at least one of the differing emphasis within the four causes of educational confusion. Quay (2014; p.167) argues over the past century what has emerged "is a hybridised state marked by continuing cycles of reform, where no ideology is able to attain complete control or remain in control indefinitely." This analysis of the roots of ideological thinking in education helps to avoid the danger of adopting a position of philosophical superiority in reaction to opposition to a particular educational ideology. It also helps to avoid jumping on the latest fad or fashion which may develop as result of discontent with current practices (Mosston and Ashworth, 2008; Rink, 2001). The plethora of publications urging PE practitioners to adopt pedagogical models acts as a case in point (cf. Metzler, 2011). Each model is derived from different assumptions about knowledge and learning and does not necessarily offer a one size-fits-all solution. They are not devoid of ideology because of the different privileging of subject-matter and child, perceived societal need or varying emphasis on individual agency. Avoiding such ideology, however, is particularly difficult when considering educational practices because they are always defined by content and purposes (Biesta, 2011). Nevertheless, finding a position which aims to articulate what it is to know in PE outside of the educational confusions identified by Quay (2014) is necessary. In a desire to find a non-dualistic experiential position on knowledge and learning John Dewey developed an understanding of education as occupation. Such a position has the potential to

create a useful standpoint for my consideration of movement culture as a means to navigate the ideological laden discourses that can confuse what is knowledge and learning.

Education as occupation

For Dewey (1916/1988) education was not simply about preparation for an adult future but an end in itself (Peters, 2010; Carr, 1997) “in our search for aims in education, we are not concerned, therefore with finding an end outside of the educative process to which education is subordinate.”(Dewey, 1916/1988; p.107) In his view education is always an activity of the present entwined with human growth which involves “a constant reorganising or reconstructing of experience” (Dewey, 1938/1997 p.54). According to Quay (2014) by using Pierce’s (1934/1903) three categories of living experience, Dewey (1935/1987) emphasised existence as ‘interactional’ and later as ‘transactional’ (Dewey and Bentley, 1949/1991); Firstness helps us to understand the emotional and aesthetic wholeness of experience, Secondness focusses our attention on the actuality of existence through action-reaction and Thirdness shines a light on the mediation of interactions through thinking and reflection. When viewed together these three categories provide a representation of the phenomenon of living experience (see Figure 2). According to Quay (2014) Dewey’s theory of experience rests in the relations between Secondness in the middle and its neighbours Thirdness and Firstness. Relations between Secondness and Thirdness are characterised as ‘interaction’ which is necessary for Thirdness which mediates between the cause-effect relationships that lie at the heart of interaction. Looking to the other side of the relationship, Secondness is also strictly individual and cannot be considered

interaction but rather, as a whole without separate parts, which is the key quality of Firstness.

FIRSTNESS	SECONDNESS	THIRDNESS
Unity of quality sheer totality Experience is WHOLE *emotional aesthetic*	**Existentiality singular occurrence** Experience is INTERACTION *practical volitional*	**Mediation continuity** Experience is MEANINGFUL *thinking intellectual*

Figure 2. Peirce's taxonomy of experience integrated with Dewey's pragmatic (top in bold) and psychological interpretation (bottom in italics) (adapted from Quay, 2014; p.17).

The quality of Firstness helps us to understand the indissoluble, co-constitutional relations between a person and their environment. This was conceived from phenomenologist philosophy by Heidegger (1927/1962) who termed this relationship 'dasein', which can be loosely translated as 'being-in-the-world'. Dewey's theory of experience connects pragmatic and phenomenological philosophy across their ontological differences and it is this which underpins the unity which he sought through education as 'occupations' (Quay, 2014). Rather than reproducing the four ideologies (defined by the four confusions within education), education through occupations positions learning in our immediate experience of the world (DeFalco, 2010). According to Biesta (2010; p.45) it is important to recognise is that Dewey's work should not be considered as a new 'truth' about the universe, but as an attempt to address a specific problem of a

hegemonic positivist paradigm that has come to inhabit our understanding of reality.

Rather than being rooted in the social efficiency ideology of occupation as vocational education and training, Dewey's conception of education as occupation is based upon an aesthetic interpretation of the place of be-ing in the world (Quay, 2014). Dewey (1916/1988) argues education is not a destination but an activity of the present. It is not about preparation for a remote adult future but is tied to human growth rooted in 'a constant reorganising or reconstructing of experience" (Dewey, 1916/1988; p.185). Education via occupation is therefore, concerned with education for ways of be-ing that are significant for and genuine to young people in the here and now of their immediate existence. These interests can be developed pragmatically through exploration of doing and knowing which are instrumental to an occupation. According to Quay (2014) education as occupation transcends the four causes of educational confusion by positioning education, learning and knowledge within a theory of experience. This position on experience bridges the phenomenological theory of be-ing and the doing and knowing of pragmatism. Boisvert (1998) explains that due to conflation with vocational training, Dewey's idea struggled to overcome its location within education ideology of social efficiency and was unfortunately overlooked. Education as occupation, however, provides a useful solution to consider learning and knowledge within movement culture. In order to understand the full implication of adopting such a standpoint I first need to explore how knowledge and learning are defined within such a position on education.

Knowing as transaction

According Biesta and Burbles (2003) Dewey's theory of experience centres on his argument that it is only through experience that living organisms are connected with reality. This connection was initially conceived by Dewey as 'interaction' and was later developed into the idea of 'transaction'. In order to delineate the potential meaning of 'inter' as 'between parts', Dewey and Bentley (1949/1991) employed the prefix 'trans' to draw attention to the mutual and reciprocal qualities of the connections between ourselves and the environment (Quennerstedt, Öhman and Öhman, 2011). Dewey (1929/1958; xi, cited by Östman and Öhman, 2010; p.3) argues nature consists of "events rather than substances" a position influenced by Darwinism in which the world is in a constant flux of evolution (Biesta and Burbles, 2003). At the forefront of Dewey's world of organisms adapting to their environment, is 'action', characterised by reciprocal, rather than causal and linear relations, between doing and undergoing the consequences of doing. According to Gale (2010) this proactivity was in direct opposition to the passivity implied in information processing models developed by psychology at the time of Dewey's theorising. The connection between organism and environment exists as 'transaction' which, Biesta and Burbles (2003; p.26) argue "puts the process first and treats distinctions such as those between subject and object or between organism and environment as functional distinctions emerging from this process – not as starting points of metaphysical givens."

According to Dewey and Bentley (1949/1991) transactions have a reciprocal relationship within which the organism acts, which leads to changes in the environment that in turn affects the activities of the organism. It is these transactions which characterise experience. Dewey and Bentley (1949/1991)

argue that learning occurs within the transactional process and therefore, it should not be regarded as something which exists in the mind but as a collection of relations in certain events. From this perspective learning is considered as a social construction, an integral part of a physical world which embraces cognitively and emotionally active human beings (Wickman and Östman, 2002b). According to Biesta (2014) transaction provides an important standpoint in order to bridge the separation of knowledge and experience that pupils can face when engaging with school curricula. He argues transaction unites everyday experiences with rationality by connecting the wholeness of experience (Firstness) and the mediation of this (Thirdness). In chapter 3 I will explore this mutuality of thinking with experience of the world in greater depth.

A limitation of defining learning as transactional is that whilst it identifies a process, it does not necessarily support an understanding of what is being transacted i.e. subject matter. Young (2014) suggests this has the potential to leave a theory of pedagogy which omits curriculum or subject matter and limits it to process or 'learnology'. However, what learning as transaction does provide is a position which rejects the notion of knowledge as a picture of reality which has certainty and thus avoids objectivism. In doing so it discounts the danger of relativism by presenting the rationale that knowledge is constituted by relationships between actions and consequences. From this perspective knowledge becomes a construction which is not only in the mind but is also re-constructed and relived as we experience and live in the world (Biesta, 2014). Moore (2011) contends this shifts knowledge from 'what-is' to the realm of 'possibilities'. In other words knowledge shifts from being a noun to an action or knowing.

Knowing as transaction in PE

This movement away from the objectification of knowledge, created by the dissolution of mind-body dualisms creates a very useful position to consider learning within PE. From this perspective PE becomes a potential site for the exploration of human movement and the meanings which may be created from moving in different ways. This is the basis of Crum's (1993) reconceptualisation of PE as movement culture. From such a standpoint, objectifying ways of moving by limiting PE subject-matter and purposes to the learning of specialised sports, techniques and skills, for the sake of competitive participation in later life, become particularly problematic. As does moving explicitly to have fun, lose weight or increase physical fitness. Limiting pupils' experiences to these ways of moving limits the subject to instrumental ends and the reproduction of educational ideology. Such an approach also ignores the social dimensions of class, race and gender which have become imbued within human movement. Whilst fitness and sport techniques offer particular socially constructed ways of moving, re-enacting them within PE limits the exploration of different human concerns and meanings connected to pupils immediate lives. The latter can be explored through codified sports, however, rather than re-enact them, education as occupation within movement culture would entail exploration of the possibilities or limitations of these ways of moving. This may also include experiences of how sports may be changed, moulded or reinvented to create other possibilities. In chapter 3 I explore this position in more detail in relation to PE practices.

Using a transactional position to consider the 'what' of primary PE

A transactional position on knowledge in PE provides a position from which to analyse traditional objects of learning or the 'what-aspects' of the subject (Nyberg and Larsson, 2014). Such an analysis enables an examination of what this understanding brings to learning and knowledge when reconceptualising PE as movement culture. For example, Fundamental Movement Skills (FMS) such as catching, throwing, running and jumping are often considered to be central to primary PE curricula (Cliff, et al., 2009). This is because they underpin what are believed to be the necessary basic skills of mainstream sporting activities. Accrual of competence to perform FMS signals a certain stage of physical development (Gallahue and Ozmun, 2006). However, if we disregard this objectification or 'what-aspect' of the subject and understand it from a transactional stand point we have to ask the questions; what is their purpose? To what are they fundamental?

Larsson and Quennerstedt (2012) argue "Moving not only produces movements but also movers, meanings, and materiality….how one moves is inextricably intertwined with who is moving and in what situation one moves, including material aspects of the situation."(p. 292). They argue that FMS frameworks ignore these meanings and do not permit the "opportunity to understand the way a child performs a throw of a certain piece of equipment as related to his or her desire to throw precisely that piece of equipment at that moment, which is simultaneously related to who the child desires to be in that certain situation." (p.292). The question remains however, what do we include in PE curricula if we are not to be instrumental in the content of PE curricula and limit it to specific physical skills or health concerns? Similarly, how do we avoid

slipping into relativism? i.e. it depends upon your view as to whether FMS are a building block to participation in PE.

Biesta (2014) argues that we should appraise the 'what-aspects' of curricula by judging content in relation to "specific matters of concern and in relation to specific aims and ends" (p.45). This can be achieved by understanding the relationship between FMS and social efficiency ideology to see how pupils' relationship with FMS can become a function of this ideology. In this case the mastery of FMS is about becoming better at sports. According to Larsson and Quennerstedt (2012) this exposes children to the work of class, gender and ethnicity which privilege these ways of moving. It also implies that participation within these sports can only be meaningful when these skills are re-enacted proficiently. In motor skill learning terms, this skilfulness develops over a prolonged period of time. A commitment to FMS (cf. DfES, 2014) can thus additionally fall into the trap of preparing pupils for a very distant adult future, rather than exploring subject matter within pupils' immediate experience.

Education as occupation creates a position which creates the need to consider the relationship between pupils and FMS in relation to their immediate experience of learning these specific skills. This may involve for example, examining the relational aspects of skills between a throw and a catch or striking bowled ball (MacPhail, Kirk and Griffin, 2008). Additionally, pupils could explore their understanding of the possibilities moving in these defined ways offer a pupils' immediate experience of exploring games or athletics. Such an exploration of subject-matter focusses upon the function of the relationship between the child and FMS and the meanings that these particular skills may have for the

occupation of sports activities. Mastery of FMS can support recognised technical proficiency which can support sports performance, but this does not mean all pupils have to replicate them. In chapters 3 and 4 I explore the tensions created when technical skills are seen as a prerequisite to participation in sports within PE.

Objectifying PE curricula through prescribed competence in FMS can create a "deficient, unable, and unknowing child" (Larsson and Quennerstedt, 2012; p 292). According to Quennerstedt (2008b) this also becomes apparent when other curricula concerns within PE are subjected to objectification such as learning about health. Cliff (2012) for example suggests that creating PE as a site for developing physical fitness, privileges mesomorphic healthy bodies. In doing so it ignores differing ideas about health and how these relate to lives pupils' live outside of the school gates. However, when viewed from a transactional perspective, our attention to meaningful participation and knowing within PE becomes focussed upon the possibilities of relations between the embodied child and their environment. As Dewey and Bentley (1949/1991) argue this environment is a mutual location of 'enmeshed' physical and cultural conditions and it is through transactions that the individual and their physical and cultural surroundings become united. Such a position provides a solution to the objectification of what it means to move or about how to move in PE (Larsson and Quennerstedt, 2012). This shifts knowing in PE to be considered from a sociocultural perspective, in which knowledge and learning are constituted by actions in events that have an on-going historical, social and cultural dimension (Rogoff, 1995).

According Larsson and Quennerstedt (2012; p.298) traditional ideas of PE have had the function of "foreclosing certain meanings of moving to children,

rather than opening to the possibility of exploring what it could mean to move in an endless range of moves." A sociocultural perspective of PE allows a plurality of interpretations, in which pedagogy serves to avoid relativism by exploring these meanings through the relations between actions and consequences. Crum (1993) proposes movement culture as an alternative to traditional conceptions of PE which have been reproduced and hybridised through competing educational ideologies within the subject. This sociocultural approach provides practitioners and researchers within the field an opportunity to embrace transactional knowing within education as occupations. Crum's (1993) proposition avoids the incoherence created by PE's position with the sport-education-health nexus and presents practitioners with a framework to discover ways of be-ing and arranging ways of doing and knowing within movement culture.

Reconceptualising PE as movement culture

In his analysis of the historical position of physical activity within UK culture, Kirk (1999; p.65) proposes a revival of the term 'physical culture'. He argues this provides greater historical continuity when analysing the 'embeddedness' of the maintenance, representation and regulation of the body in various cultural practices. However, Crum (1993) rejects the term 'physical' arguing that it has the potential to invoke mind-body dualisms. He believes such dualisms ignore the cultural mutuality of human movement which exists as a dialogue between the moving individual and movement-induced meanings created by their interactions within the world. Movement culture is a common umbrella term within German and Dutch languages containing the set of movement actions and interactions (sport, play, dance, or other fitness activities) that encompass a group's leisure (Crum 1995, p.115). Movement culture encompasses all leisure actions in which

the human moving act is the ‘essence’ and “refers to the way in which a social group deals with the need and desire for movement beyond labour or maintaining life” (Crum 1993, p.341). This process occurs across institutional structures such as in schools and sports associations and is inclusive of movement within informal cultural spaces such as impromptu games in a local park.

From this standpoint, PE is not an exclusive space for learning. Pupils will filter experiences through their own personal experiences obtained both within and beyond the school gates (Banks, 1993). PE practices are thus, mutual cultural parts of a consistently changing landscape in which “people realise and experience important values, such as recreation, health, adventure, excitement, togetherness, performance, and self-realisation” (Crum, 1993; p.134). People act in different ways to achieve this realisation and these actions are integral to different purposes and motivations. As a result different types of movement cultures can be created, for example, Crum (1992) identifies; elite sport, competitive club sport, recreation sport, fitness sport, risk and adventure sport, lust sport and cosmetic sport.

Crum (1993) argues that as broader cultural landscapes change so does the landscape of movement culture. It is this sociocultural context that makes it reflective of the diversity of movement practices, relative to different times and spaces and integral to changes in cultural norms and values. This postmodern position on human movement is developed by Crum (1995) using the concepts of postmodernity, individualisation and rediscovery of the body. He uses these to contextualise the relations between changes in society and cultural implications for the meaning of human movement to school pupils. He argues that a shift towards

postmodern values and the “craving for self-realisation, the trend to individualization and the rediscovery of the body….have led to a ‘sportification’ of society (Crum, 1995; p.1). Within this he suggests there has been an internal differentiation of sport which has shifted a homogeneous sport system to a heterogeneous movement culture. Crum (1995) concludes that this change means “movement-cultural sub-systems develop beside each other as differed shops with different assortments and different internal rules for different clients, who have different needs and expectations” (p.122).

Crum (1995) suggests that such change is fully evident within Sport, which acts as a readily accessible “medium for the experience and training of self-determination and self-realisation…….irrespective of their sex, age, social class and level of education” (Crum, 1995; p.119). Young people seek and thrive within new kinds of institutions in which authority, and allegiance, must be constantly renegotiated, re-established and earned (Holland and Thomson, 1999). Scholars such as Kirk (2010) and Bailey et al., (2009) argue that PE currently taught in UK schools has yet to achieve the sport-education-health outcomes the subject has claimed to deliver. They have argued that this has been compounded by the enduring reproduction of traditional practices in curriculum design and teaching within PE (cf. Curtner-Smith, Hastie and Kinchin, 2008; Stran and Curtner-Smith, 2009). These stem from mainstream codified sport, which traditionally form the main curricula content of PE (Kirk, 1999; 2010; Penney, 2006; Tsangaridou, 2006). It is at the interface between sport and PE that these practices create a significantly high risk for further dissatisfaction and disengagement from PE (Evans, 2012; Tinning, 2002). As such, Crum (1993) argues PE does not

necessarily prepare young people to become active creators and consumers of the varied forms of physical activity and sports.

Some writers argue that such a weakness calls for rise in critical pedagogical approaches to prepare pupils for a pluralist society (Wright, 2004) however, this returns us to the reproduction of educational ideology through PE practices. Movement culture thus becomes a potentially valuable position from which to reconsider the subject matter and pedagogical approaches of PE practices. Indeed, Crum (1993; p.341-342) presents three key arguments for reconsidering the current paradigm of PE practices:

1. In modern societies participation in movement culture contributes to the quality of life of its members. It provides an alternative to the sidelining of movement created by technology. Competencies for participation are emancipating and are important for individual development social inclusion.

2. Lasting and satisfying participation in movement culture demands a repertoire of competencies, the acquisition of which does not come automatically to people but requires organised teaching-learning processes.

3. Not every youngster has access to a sports club. As they go to school for at least 12 years and schools are provided with professional teachers, the responsibility for introduction into movement culture should be in the hands of the school.

He tasks PE to embrace contemporary cultural shifts in sports engagement and participation, encapsulating learning with a "utility value for the movement culture outside the school [maximising] its potential to qualify youngsters for an emancipated, satisfying and lasting participation" (Crum, 1995, p.116). This challenges PE to support pupils to develop a personal movement identity and become critical and life-long consumers of movement culture.

Reconceptualising PE as movement culture embraces the wholeness of experience between PE and movement culture beyond the school gates, including the on-going immediacy of our engagement with sports and physical activity. It acknowledges the situated creation and continuity of PE practices and the mutually implicit social and embodied aspects, constituted within institutional and wider social structures. It is this consideration of the mutuality between the individual, social, physical and wider social contexts of movement culture that aligns with Dewey and Bentley's (1949/1991) transactional perspective of learning. In this way education as occupation becomes a solution to a position on knowledge and learning within movement culture which was underdeveloped by Crum. Actions-within-PE-settings become part of PE movement cultures that are constituted through pedagogical practices, congruent with local and wider social contexts. This solution provides two possible avenues of further exploration. Firstly, the epistemological significance of considering the constitution of actions-within-PE-settings as a starting point for exploring learning and knowledge within PE. This cultural conceptualising of learning within PE is examined in chapter 4. Of second significance is the extent to which it avoids the issues created through the objectification of human movement that in turn immediately creates a knowing or unknowing child.

Education as occupation views discovering ways of be-ing through pupils' interests as an implicit part of considering pupils immediate experience of subject-matter (Quay, 2014). This is echoed by Crum (1993) who also articulates the importance of cultivating pupils' own interests in different sports and physical activities. These become a medium through which PE can seek the achievement of its educational aims. However, there is a danger that such views can slip

towards more instrumental concerns, by reverting to Arnold's (1979) argument of PE as initiation into culturally significant activities. This risk can be avoided because adopting a transactional position on learning in movement culture does not privilege particular forms of movement as certainties or a pre-discursive body devoid of gender, class or race. Crum (1993) does suggest the need to develop 'movement competencies' however, this does not imply the objectification of ways of moving. Rather it aligns with a pragmatic understanding of the development of pupils' capacity to explore different possibilities. These enable them to understand different human concerns and meanings generated by human movement. For example, pupils might learn to complete forward rolls in gymnastics, not as an objectified end, but as a means to explore what it is to roll in this way and what possibilities it offers.

According to Quay (2014; p.195), Dewey places such activity under a banner of 'arranging ways of doing and knowing' which is articulated by Crum (1993; p.243) through his identification of four key interdependent strands of learning:

- **Technomotor** – learning to solve the technical motor problems presented by moving in context.
- **Sociomotor** – learning to solve the social problems presented by moving and playing with and against others.
- **Cognitive/reflective** – learning to understand how to become more effective at solving movement problems through understanding the patterns and processes inherently involved.
- **Affective** – development of a positive bond with exercise, movement, play and sport.

These provide a guide to the possible arrangement of knowing and doing in order to support pupils in becoming critical consumers and creators of movement cultures. By not objectifying skills and activities Crum (1995) is able to emphasise

the exploration of the social making of movement culture. In particular, an appreciation that rules can and should be changed to support learning and enjoyment. By doing so, he argues pupils may develop a position from which they can change the conventions and rules which govern different sports and physical activities to support their own particular concerns and pursuits (Crum, 1993). Crum (1995) suggests that in this way learning becomes focussed upon the process of solving movement problems in different contexts. Subject-matter thus become located and explored within pupils' immediate experiences rather than as a distant aim of adult participation.

My search for a position on knowledge and learning within movement culture provides a theoretical framework from which to address my first research question. This is addressed by publications 1 and 2. Publication 1 employs movement culture as a theoretical position from which to analyse common activity areas that feature within PE curricula. To complete this analysis I draw from Crum's concept of solving movement problems and his four interdependent strands of learning. By completing this analysis I aim to demonstrate the coherent position movement culture provides from which to explore sport as subject-matter within primary and secondary PE. Publication 2 examines movement culture as a potential solution to issues created through disconnections within primary PE. In the next chapter I continue to explore this positioning on knowledge and learning within movement culture. In particular, the extent to which it enables us to understand the challenges created by the teaching of games in primary schools.

Chapter summary

This chapter seeks a solution to the underdeveloped position on knowledge and learning within movement culture. In particular, a position that is coherent with Crum's (1993) attempt to overcome traditional mind-body dualisms within PE. My analysis of recent efforts to provide conceptual coherence for the educational value of PE identifies a need to consider wider prevailing educational ideologies. This leads me to consider Dewey's solution for avoiding the privileging of these ideologies through education as occupation. My analysis of this transactional position on learning creates a solution to the need for a more developed position on knowledge and learning within movement culture. This provides a theoretical standpoint for Publications 1 and 2 which aim to address my first research question.

Chapter 3

Learning within Games Movement Cultures

Introduction

In chapter 2 I employed education as occupation to develop a position on learning and knowledge within movement culture. This action orientated, experiential theorising of learning provides one potential solution of understanding the practical and embodied nature of learning within movement culture. Dewey's theorising of education as occupation focusses upon the immediate inquiry of subject-matter by pupils, rather than a long term objective of learning for a distant adult future. However, PE in England has been explicitly tasked with preparing pupils for an active adult life in movement culture, in particular learning codified sports such as competitive games (DfE, 2014). Such a task privileges subject-matter over the child, which creates particular difficulties for pupils who are developing cognitively, physically, emotionally and socially. When pupils' capacity to play a game is made an outcome for PE the simplest unit of analysis becomes the players and the actions these players are able to produce to play the stated game. Thus, the tools such players need to access these complex activities become a logical pedagogical focus. It is in this way the mastery of techniques develops into a prerequisite to pupils' meaningful engagement in game play. This presents a significant hurdle for young children who have yet to reach sufficient motor and cognitive maturity to become proficient in these specialised and complex techniques. Developing techniques into skilful and tactical actions within complex variable events, presents an additional and equally significant layer of challenge.

Herein lies the problem, how can competitive games be transformed into curricula and pedagogical experiences which does not privilege either the child or the subject-matter? To address this issue I examine the pedagogical implications of education as occupation through an analysis of Dewey's theorising of experience. I use this understanding to consider the challenges and possible solutions such a position creates for the curricula and pedagogical transformation of competitive games. In doing so I aim to address my second research question; how does an analysis of practising teachers' Pedagogical Content Knowledge (PCK) and models-based practice designed to support the teaching of games, develop our understanding of the positioning of games as subject-matter in pupils' PE experiences? Publication 3 addresses the first part of my second research question by employing PCK to analyse the relationships between the structure of teachers' knowledge of games and their approach to creating learning experiences for their pupils. This study revealed primary teachers' separation of games activities into codified sports through a narrow focus on technical performativity and enjoyment. In doing so they created a clear separation between their pupils and games as PE subject-matter. I address the second part of my second research question in publication 4 where I examine games-based pedagogical tools designed to enrich pupils' learning beyond such practice. My analysis revealed how such models aim to embed pupil's experiences of games within game play. To operationalise such objectives these models require complex curricula and pedagogical transformation of games activities. In response to this complexity I create frameworks to support primary teachers in simplifying the complex relations between skills, tactical problems/solutions and principles of play, which can be located within pupil's immediate experience of game play.

Games as complex subject-matter for PE

Games have been a longstanding and dominant feature of PE curricula and the challenges they present to players include the ability to use particular actions at particular times, either singularly or with other players. The environment in which these actions are required is ever-changing with no one event being exactly the same. Players are required to choose an action to solve particular technical, tactical, textual and social challenges presented by the continually evolving environment. This also changes when, how and why players time their actions. According to Engström (2008) activities such as games have a 'logic of practice' which provides a source of meanings and governance for players' actions. These ways of acting are reflected in teachers' and pupils' beliefs about what values and behaviours are relevant. Competition is a common logic of practice and in games it is defined through their codification into sports such as Rugby Football Union and further still into child friendly codes such as TAG Rugby. Logics of practice can also shape practices without official governance, such as in children's adaptations of 'official' games to particular local physical and social environments for their own particular purposes.

Whilst many traditional games were historically developed and codified by UK educational institutions, the educational purposes of these activities did not move beyond muscular Christian ideals (Watson, Weir and Friend, 2005). However, competitive games have been employed historically throughout primary and secondary PE and affect how and what happens in PE practice (Larsson and Karlefors, 2015). Teaching such activities presents significant curricula and pedagogical challenges and as a result a number of game-based pedagogical tools have been developed (Smith, 2014). These aim to help teachers to support

pupils in understanding decision making and developing skilfulness in choosing, timing and executing actions within game play. According to Raab (2007) such tools have been developed in a response to the common and limited pedagogical practice of isolating player's actions from the context of game play, through the repetition of technical practices (Kirk, 2010). In particular, the difficulty faced by players when they move from this technical replication to the ever-changing environment of game play. Despite these solutions their widespread use is not reflected in the research field, particularly within UK primary PE (Almond, 2010). Indeed, the teaching of games in this sector has been historically identified as being problematic (OFSTED, 2002; 2005; 2009).

These issues centre upon the separation of techniques from game play and overlooking the decision making involved in finding solutions to the tactical problems posed (OFSTED, 2002; 2005; 2009). In essence, being an effective games player becomes something of a 'knack' (Peters, 2010), developed by experience, which is difficult to analyse, beyond very sport specific and highly technical lenses. Transforming games into subject-matter for learning in PE presents a significant challenge for secondary specialist teachers and sports coaches, let alone generalist primary school teachers (Butler, 2014; Harvey, Cushion and Sammon, 2014). Amongst those unfamiliar with conceptualising knowledge as embodied, being able to play games becomes an activity associated with bodily play, rather than serious education. In this way separations made between the mind and body help to reinforce PE subject-matter as peripheral to the cognitive, academic traditions of literacy, mathematics and science (Sparkes, Templin and Schempp, 1990). Providing an alternative position to traditional cognitivistic separation of thinking in learning within practical activities, such as

games, can be provided by some non-dualist approaches to knowledge and learning. Dewey's dissolution of mind-body dualisms offers one such solution, by theorising activities of the mind such as thinking within the wholeness of experience (Quay, 2014).

Thinking within learning as occupation

Dewey (1902) believed practical activities had important links with developing intelligent action. His conception of learning through occupation is based upon the rationale that environments can actively engage pupils in practical learning that brings subject-matter into their immediate experience via an authentic milieu. Dewey (1916/1988) argued that the meaningfulness of this interaction (Secondness in relation to Thirdness – see figure 2) can promote evaluative, intelligent action. Knowing therefore, does not differ from other forms of knowledge such as mathematics and physics, in that it can only stem from a reconstruction of the processes of knowledge acquisition. In other words pupils come to 'know' from the meaning making generated by their subjective experience (Stolz, 2014b).

According to Biesta and Burbles (2003) the basis of Dewey's theory of experience or 'knowing-as-action-through-inquiry' is an experimental theory of learning. Dewey (1922/1988) argued that thinking is not a genetic disposition but is something which is acquired and caused, as with all human action, by an impulse to 'knowledge-get'. He argues once this happens and "the product being liked and its importance noted..[it] becomes, upon occasion, a definite occupation."(p.130). Thinking emerges when it is initiated via an impulse, generated from instability created by a disruption of the organism-environment

transaction. Thinking does not initially appear rather it is initially experimental, tentative cooperation of habit, impulse and perception that are employed to re-establish stability. The value of the experience, however, is increased when 'possible' actions from selections of habits and impulses are systematically explored (Biesta and Burbles, 2003). This transforms the process into 'deliberation' which involves experimenting to understand the resulting action (Biesta and Burbles, 2003). Thinking supports this experimentation by imagination or 'dramatic rehearsal' rather than actual action, because a transactional understanding the organism-environment means any action changes the situation (Biesta and Burbles, 2003). According to Vanderstraeten (2002) this distinguishes learning as experience as intelligent action from learning through trial and error.

Pedagogical challenges presented by learning as occupation

So far in this chapter I have aimed to create a position in which thinking is understood as a mutual aspect of the wholeness of experience and as a key feature of learning as occupation. In this section of the chapter I aim to consider the challenges that are created by placing subject-matter in pupils' immediate experience within the school environment. This leads to my consideration of PCK as a tool to understand how teachers mediate between knowledge as academic disciplines and the need to create learning experiences for their children. Publication 3 conducts an analysis focussed on this process for games activities within primary PE. The difficulties which this publication revealed, lead me in publication 4 to consider models-based practice as pedagogical tools designed to facilitate this process.

Dewey is quite clear in arguing that teaching and learning is not about letting children loose to make their own decisions and decide upon their own

course; ideas contained within learner centred ideology. Rather he clearly believes that education through occupation "calls instincts and habits into play; it is a foe to passive receptivity…[it] appeals to thought; it demands that an idea of an end be steadily maintained so that activity cannot be either routine or capricious" (Dewey, 1916/1988; p.361). He argues occupational activities have an "end-in-view an aim, a purpose, a prediction useable as a plan in shaping the course of events" (Dewey, 1929/1988; p.86). However, in their review of current PE practices Thorburn and MacAllister (2013) argue lessons framed as 'exercise-as-useful, movement-as-understood and activity-as-enjoyed' "have failed to resource students with enhanced meaningful experiences" (p.463). To change this position they support 'movement-of-personal-value-criterion' which draws from Dewey's aesthetic understanding of learning through occupation (Firstness) mediated through thinking (Secondness and Thirdness). Such an approach challenges pedagogical practice to connect with pupils' interests and create, for example, the conditions conducive to the exploration of meanings within movement culture. This presents a significant challenge for teaching which Dewey (1928/1984; p.259) identifies as "the most difficult and the most important of all human arts". The difficultly in teaching, Quay (2014) argues, resides in balancing being-a-teacher and caring for others within the teachers own care and allowing pupils to build their own be-ing without taking away their care.

Using the phenomenological constitution of be-ing, presented by Heidegger (1927/2010), Quay (2014) argues this dilemma faced by teachers often leads to them 'leaping-in' for their pupils, which results in taking away the pupils own care. He argues this is identical to Dewey's critique of education as preparation for a distant future. As Dewey (1938/1997) argues using the present, as preparation for

a future, removes the necessary conditions needed for a pupil to ready themselves for the future. These conditions should be developed from the present occupations of pupils' lives as it is these which will provide the habits that they will need in the future. Education as preparation for the future does build a way of be-ing, but this is limited to the occupation of being-a-pupil not be-ing in the present. Boisvert (1998) argues Dewey's idea of occupation aimed to locate subject matter within a pupil's place in experience, he explains subject-matters surround us and are not "one dimensional objects waiting to be viewed correctly once and for all…they are repositories of multiple possibilities many of which remain latent until the activities of inquirers help bring them out" (p.37). From this position learning as occupation of movement culture would therefore be concerned with the doing of subject-matter and reflecting upon this doing, which may occur in the action of doing or more explicitly as a reflective activity.

Learning as occupation within movement culture

Crum (1993) like Dewey (1938/1997) suggests starting with pupils' interests. Dewey's theory of learning as experience draws attention to using different modes of experience to guide inquiry into different forms of movement culture. Thinking forms a key role within this move from non-reflective to reflective experience, as Dewey (1916/1988) summarises, "The pupil should have a genuine situation of experience – that there be continuous activity in which he is interested for its own sake; secondly, that a genuine problem develop within this situation as a stimulus to thought; third, that he possess the information and make the observations needed to deal with it; fourth, that suggested solutions occur to him which he shall be responsible for developing in an orderly way; fifth, that he have the opportunity and occasion to test his ideas by application, to make their

meaning clear and to discover for himself their validity." (p.157). Crum (1993) articulates different learning strands; technomotor, sociomotor cognitive/reflective and affective, to help map potential lines of inquiry into movement cultures. According to Dewey's position on learning, these cannot be delineated as they form mutual part of our experience. Therefore, it falls upon the teacher to arrange pupils' doing to try to bring these to the foreground through the process of using and interrupting pupils' habits of action.

Dewey (1916/1988), however, admits working within the completeness of the active occupation of subject material is problematic. He describes examples of how the wholeness of the active engagement with subject matter can be broken by the separation of tools of investigation, i.e. skills, from their purpose in solving problems. This leads to the technique being "acquired independently of the purpose of discovery and testing which alone give meaning…..it is assumed that before objects can be intelligently used, their properties must be known" (p.191). This issue is resonant 94 years later in Kirk's (2010) identification of PE-as-sport-techniques, in which pupils are required to learn techniques often in isolation from the activity itself. For example, when learning about games, such a pedagogical approach means pupils are thrust into playing and expected to apply these techniques as skills within a constantly evolving dynamic of moving artefacts and players that also vary in their nature (Smith, 2014). PE-as-sport-techniques in games is often couched in the belief that techniques are a prerequisite to pupils ability to play games. Play such sports are further argued as a way of preparing pupils for a distant future adult role of playing games as an active leisure pastime or becoming and elite player (Green, 2014). Mainstream codified sports thus become the dominant subject-matter of PE curricula and ignoring the multiple

possibilities of meaning they may have for a pupil's immediate experience. In this respect teachers 'leap-in' for their pupils by placing the subject-matter of techniques outside of the pupils' experience of game play. They also 'leap-ahead' by requiring them to play codified forms of competitive games.

Quay (2014) argues understanding Heidegger's mode of 'being-with' helps to avoid such misplacement of subject-matter. He argues such as position helps to cease removing care from pupils by 'leaping ahead', allowing them to maintain care for their-being-in-the-world. According to Heidegger (1951-2/1968; p.15; cited by Quay, 2014) "what teaching calls for is this: to let learn…..The teacher must be capable of being more teachable than the apprentice. The teacher is far less assured of his ground that those who learn are of theirs….there is never a place in it for the authority of the know-it-all". When considered in relation to learning as occupation this position enables the mode of 'being-a-possibility' to emerge in which "the pupil's mode is no longer 'study'. It is given to adopting the things that the situation calls for, while learning is the result" (Dewey, 1928/1984; p.204). In other words a child's experience becomes constituted by their interdependent interactions through their purposeful emersion in the subject material.

Consequences of learning as occupation of movement culture for PE practice

Achieving purposeful emersion within PE contexts involves creating opportunities for the occupation of subject-matter, authentic to groups of pupils that are of significant to their be-ing in the present. It also implies a move away from traditional teaching approaches to the arranging doing and knowing through complex 'nonlinear pedagogy' (Atencio, et al. 2014; Jess, Keay and Carse, 2014).

These approaches have emerged from dynamical systems and other ecological systems theories (O'Connor, Alfrey and Payne, 2012; Storey and Butler, 2013) which aim to capture the meaning of knowledge and understanding of the world and the self (Biesta and Osberg, 2010). Jess, Keay and Carse (2014) suggest, this approach is key to PE within a postmodern world which should aim to explore diverse, dynamic, uncertain 'truths' that surround movement cultures (Wright 2004). These ambitious aims stress the role of a flexible triad of teachers' pedagogical wisdom encompassing subject knowledge, knowledge of the learners and pedagogical knowledge (Kirk, Macdonald and O'Sullivan, 2006; Tinning, 2010). Within PE, the main source of understanding about the nature and development of this expertise has grown from research within initial teacher education. For example, such studies have examined the relations between teachers' knowledge development and teaching expertise (Calderhead, 1996; Rovegno, 2003; Tsangaridou, 2006). Understanding how such knowing is constituted can provide and insight into the pedagogical and curricula transformation of subject-matter by teachers for their pupils. In particular, how they position subject-matter in relation to children's immediate experience of this subject-matter.

Understanding teachers' positioning of games as subject-matter through Pedagogical Content Knowledge (PCK)

Typologies have been developed to help researchers understand the subtleties in the nature of teacher's knowledge and often reflect Dewey's theorising of knowing through experience. In particular, that this knowing is contextual and dependent upon the nature of inquiry, within the process of its development (Lederman, Gess-Newsome and Latz, 1994; Loughran, Mulhall and Berry, 2004; Schon, 1983; 1987). For example, the development of teacher's

knowledge and its relations to classroom practices has been termed 'craft knowledge' (Shulman, 1987), 'practical knowledge' (Shulman, 1986) and 'practical wisdom' (Lunenberg and Korthagen, 2009). Shulman's (1987) highly influential work within this area theorises subject knowledge in relation to the knowledge required to teach. His topology of teacher's knowledge distinguishes between content knowledge (knowledge of an academic domain), general pedagogical knowledge (how to teach) and pedagogical content knowledge (PCK) (knowledge of how to teach an academic domain). Thus, a teachers' subject knowledge is not only domain knowledge, rather it involves knowing how to transform this knowledge pedagogically to create opportunities for learners to engage with it (Myhill, Jones and Watson, 2013). PCK has become a focus of interest because it embraces the contextual relational nature of teachers' knowledge; "that special amalgam of content and pedagogy that is uniquely the province of teachers, their own special form of professional understanding" (Shulman, 1987; p.8). This understanding was progressed by Grossman (1989) who defined PCK as an overarching term which includes; "what it means to teach a particular subject, knowledge of curricular materials, and curriculum in a particular field, knowledge of students understanding and potential misunderstanding of a subject area, and knowledge of instructional strategies and representations for teaching a particular topic."(p.25).

Siedentop (2002) acknowledges that whilst PCK is important to pedagogical practices within PE, he claims categorically that it cannot exist without content knowledge. That is knowledge relating to competent participation in sporting activities. Indeed he claims any advance in pedagogical practices within PE is defined by this "simple truth" (p.368). For Siedentop (2002) the ill-defined subject

matter of PE, caused by reigning confusions created by the Sport-Education-Health nexus, is the cause of the short term multi-activity programmes which epitomise school curricula. His solution, however, to focus on teaching sport as content to teachers resides in a one dimensional understanding of movement culture. This position does not avoid questions concerning multifarious understandings of what constitutes sport and knowing in sport. Whilst sport forms the source of subject-matter for PE, turning it into a school subject that leads to the occupation of this subject-matter would require a wider consideration of sports and physical activities, both inside and outside of the school gates. It would also mean teachers would have to move beyond their own particular interests and consider pupils own experiences and lack of experiences of different aspects of these sports and physical activities.

In response to Siedentop (2002), Tinning (2002) adopts a Deweyan perspective of knowledge, arguing that what is required is subject-matter content knowledge. He argues such knowledge encompasses sports, physical activities and PE curricula, which he believes may help teachers to locate subject-matter within the experience of moving. He suggests teachers need to be able to possess knowledge of "the meaning of activity to young people" and to be "adaptable and live with uncertainty" and to "know how to engage children and youth in critical ways with subject matter" (p.388). This necessitates a sophisticated PCK, characterised by the integration of subject-matter content knowledge with different understandings of organising and arranging learning experiences in relation to a teacher's knowledge of the pupils.

Analysis of a teacher's PCK offers an insight into this complex process of selecting and presenting subject-matter by teachers (Rovegno, 2003). Research using PCK within PE has focussed predominantly upon how student teachers develop their expertise within this process (Amade-Escot, 2000; Graber, 2001; Rovegno, 2003). Rovegno (2003) for example revealed the difficulty students faced with the dividing, sequencing and differentiation of subject-matter to make it developmentally appropriate for pupil learning. Other research suggests a hierarchical nature of teacher knowledge and the importance for student teachers to acquire a breadth of knowledge in order to support a progressive development of their pedagogical expertise (Sebren, 1995). Griffin, Dodds, and Rovegno (1996) investigate the problematic nature of acquiring PCK to suit teaching contexts and argue that it requires teachers to be highly committed to continual reflective practice.

According to Deng (2007) these uses of PCK overly focus upon the pedagogical transformation of subject-matter. In doing, so the complex curricula process of creating school subjects, which form a crucial aspect of how learning experiences are constituted, become overlooked. He argues this individualisation of pedagogical competence is rooted in the belief that a definable body of knowledge exits for teaching. Deng and Luke (2007) explain that it is from this belief that PCK was developed in the 1980s as a research and professional development tool to support the professionalisation of teaching in the USA. Deng (2007) believes this misconstrues the original theoretical positions from which PCK has been distilled. He argues that some uses of PCK have made the transformation of academic disciplines into subject-matter a measurable quality of a teacher's pedagogical expertise, however, "What seems to be obscured or undermined is transformation

as a curricular task that takes place before teachers transform their subject matter knowledge in their classrooms, in terms of the formulation of a school subject or course of study embodied in curriculum materials for the use of teachers and students" (p.282).

This does not to suggest that all uses of PCK are invaluable, however, when such a perspective is employed to read contemporary PCK literature, it is evident that the curricula mediation of subject-matter is often overlooked. For example, Park and Oliver (2007) thoroughly analyse the PCK of science teachers concluding that "teachers do not simply receive knowledge that others create to teach, but produce knowledge for teaching through their own experiences" (p.282). However, how this relates to the transformation of scientific disciplines into a school subject in which such knowing remains underexplored. This is a common feature of the prevalence of PCK literature that exists in research into science and mathematics teaching (Ball, Thames and Phelps, 2008; Baumert, et al., 2010; Lee, et al., 2007). It may be that national curricula and compulsory programmes of study cloud this issue (Maton, 2011). Nevertheless, these curricula reflect particular political and social discourses that are mediated alongside academic disciplines by teachers when creating a package of study unique to their school and pupils (Deng, 2007; Traianou, 2006).

Within PE, Ennis and Chen (1995) demonstrate how curricula decisions are related to teachers' PCK. However, other recent PE literature similarly focuses on pedagogical strategies, overlooking the mediation and transformation of sports and physical activities into coherent programmes of study (Ayvazo, Ward, Stuhr, 2010; Creasy, Whipp and Jackson, 2012; Marcon, Graça and Nascimento, 2012;

Ward, Ayrazo and Lehwald, 2014). Deng and Luke (2007) suggest seeking linear relations between academic disciplines and school subjects, sought through the measurement of teachers' subject-matter knowledge, ignores what constitutes a school subject. For example, at the classroom level subject-matter is created through enactment of a curriculum. This requires a teacher to analyse the structures and processes through which such a curriculum aims for subject-matter to be transformed. Deng (2007) suggests bypassing such a process privileges the academic discipline over the child. In doing so, it separates the child and subject-matter ontologically and requires them to be united epistemologically by the teacher.

The tension created through this separation of child and knowledge was historically played out at different ends of the dualism by enmity between progressive and traditional educational ideologies. This provided the context for Dewey's search for a coherent position which unites the child as an "immature, underdeveloped being" and "meanings, values incarnate in the matured experience of the adult" (Dewey 1902/1990; p. 182). Dewey's solution was to dissolve this division through education as occupation in which subject matter and the child are united through experience. According to Dewey (1902/1990) academic disciplines such as Physics and Chemistry represent the possibilities of development inherent in the child's "immediate crude experience" (p.190). From this perspective they become the end, rather than the starting point of the curricula and pedagogical creation of a school subject. Subject-matter and the child therefore represent "two limits which define a single process" (Dewey, 1902/1990; p.189) of curriculum and teaching. The task of school subjects therefore, is to span this separation through "continuous reconstruction, moving from the child's

present experience out into that represented by the organized bodies of truth that we call studies." (Dewey, 1902/1990; p.189).

This task requires transformation of an academic discipline into a special form of experience for the learner represented by the school subject. For Dewey this transformation is a curricula task which involves creating a coherent course of study that builds towards, but is not determined by academic disciplines. According to Deng (2007) whilst teachers are required to transform curricula material as they interpret and interact with their pupils in particular contexts, he argues this is specifically a pedagogical task. Mediating between a knowledge discipline and a school subject, however, is a complex curricular task that requires a body of expertise beyond the individualisation of a teacher's PCK. Deng (2007) argues this presents a substantial challenge to uses of PCK which conflate school subjects and academic disciplines through the conceptualisation of teachers' subject-matter knowledge.

With this position in mind, publication 3 explores primary school teacher's curricula and pedagogical transformation of sports into games experiences. The findings revealed a sports specific technical distillation of traditional games in which enjoyment, perceived through active participation, provided the success criteria. This was made evident through the teacher's knowledge structure and pedagogical organisation of subject-matter. These findings expose the privileging of subject-matter over the child in both the curricula and pedagogical transformation of games activities. Such approaches contrasted significantly with the conceptualisation of games as groups of activities, defined by tactical problems, contained within the iteration of the National Curriculum for Primary PE

(NCPPE) at the time of the research. They reflect a historical practice reported by OFSTED (2005, 2009) of teaching which ignores the NCPPE strand of tactical concepts. Such findings expose the impotency of national curricular, national PE and Sport Strategies and ITT to generate sufficient curricula and pedagogical expertise to move beyond PE-as-sport-techniques. They also point to the potential inadequacies of current approaches to CPD (Armour, et al., 2015)

Positioning games subject-matter within pupils' immediate experience

Publication 3 suggests that the curricular and pedagogical transformation of games separated the children from the subject-matter. In this section of the chapter I explore the response of some members of the PE community to develop pedagogical practices which aim to support teachers to avoid such separations. Using the position of education as occupation, I discuss the approach taken by game-based pedagogical models and their implications for use by primary school teachers. I first begin with an overview of the particular position on knowledge such approaches take and use Rabb's (2007) model to explain the varying ways they aim to transform games as subject-matter. Possible reasons as to why these models have not taken a hold within PE teaching in schools is examined, particularly in relation to a divide between theory and practice. I suggest such a position is created through the complex contextual demands of teaching and the epistemological approach that games-based models require. This leads me to a structural analysis of games presented in publication 4 which aims to support the complex curricular and pedagogical transformation of games as subject-matter. I argue that this necessary work is overlooked by games-based models.

Model-based practices in the teaching of PE are a response by some scholars and practitioners to the prevailing idea of PE-as-sport-techniques (cf. Sport Education; Siedentop, 1994; Tactical Games; Dyson, Griffin and Hastie, 2004; TGfU; Bunker and Thorpe, 1982; Co-operative Learning; Glass & Putnam, 1988). Kirk (2010; 2013) and Pope (2011) for example, suggest that they may be the only means to prevent PE from being replaced by the narrow performativity of sports coaching. Depending upon assumptions made about teaching and learning, they are referred variously as; instructional models (Metzler, 2011), models of curriculum and instruction (Kinchin, 2006) and pedagogical models (Haerens et al., 2011). In chapter 2 I explored how pedagogical approaches provide meeting points for particular sets of beliefs about knowledge and the purposes of education. Using Quay's (2014) intersections of educational confusions I used examples of some of the discourses associated with particular models to illustrate how pedagogical practice is imbued with educational ideology. I argued that viewing pedagogical practices in this way reveals how such practices are positioned in relation to the purposes of education and how knowledge is positioned in relation to the child. Dewey (1916/1988) argues that education as occupation provides a means to overcome the dominance of educational ideology by uniting the child and subject-matter within their immediate experience. Pinning each model down to a particular set of ideologies would merely prove a distracting task here. A cursory overview of these models, suggests that what they attempt to do, is provide pupils with different experiences of subject-matter. However, their use may be interpreted in different ways; for example, TGfU could be used to position the game of football as the most important thing to learn and use adapted games to develop technical and tactical competence. However, TGfU practices may alternatively be employed to support pupils' understanding of contextual

specific game forms such as those created within a particular school and lesson. As Butler (2014) argues varying 'pedagogical and ontological beliefs' exist in relation to what constitutes its authentic use. In response she returns to the creators and proponents of the model for clarification of what characterises a TGfU approach, true to its intended inception. Harvey, Cushion and Salmon (2014) identify significant challenges posed when pre-service PE teachers use games-based models. Specifically, the risks of a 'cafeteria' (p.9) approach to pedagogy and subject-matter. They reveal these are created by difficulties stemming from understanding the pedagogical transformation of subject-matter such approaches require. It is to the conceptual and pedagogical dilemmas discussed by Harvey, Cushion and Sammon (2014) that I now turn in order to understand the possible difficulties that such pedagogical practices may pose to practicing primary teachers.

Game-centred models within PE practice

A number of game-centred models have been developed to be used in schools, all differing in their approach to skilled actions within a game context. According to Rabb (2007) when actions in games are considered incidental and contextual, i.e. there are no 'if-so-then' decisions to be made, an 'implicit' approach to learning is taken. These models approach the development of skills and decisions through generating experiences that result in individual contextualised decisions such as those aimed for by Game Sense (den Duyn, 1996, 1997). However, if actions are taught by isolating a specific situation which demands the use of specific skills an 'explicit' learning approach is adopted. Such an approach to teaching requires the ability of pupils to produce a 'verbaliseable'

knowledge of specific actions to specific situations (Masters, 2000) such as those required by TGfU.

Game-centred models also differ in how subject-matter is viewed. Rabb (2007) explains 'domain specific' models apply to a specific codified games and 'domain general' approaches seek to make connections between different games and different situations. A domain specific approach focuses on the specificity of an action to a particular situation, for example the use of a particular passing technique in a specific sport. In this approach actions are considered to be only tentatively related to situations in other games. However, in domain general pedagogical approaches, transferability between skills and tactics is considered possible; despite varying specific situational conditions such as the equipment used or numbers of players involved. According to Rabb (2007) greater clarity can be achieved when these different approaches are viewed as continuums; implicit learning and explicit learning form a line of intentionality of the decision to use particular actions, and domain general and domain specific form a line of transferability of actions and decisions reached in games (refer to Figure 3).

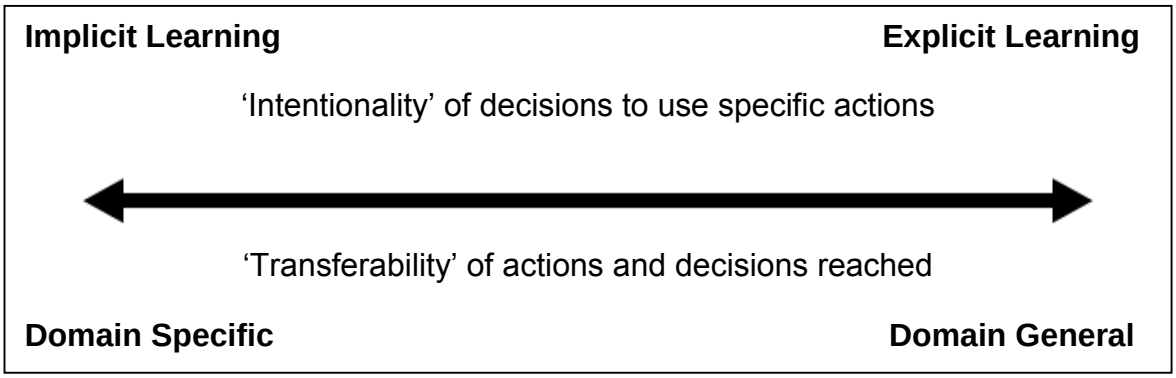

Figure 3. Locating a pedagogical approach to games teaching using the continuums of 'Intentionality' and 'Transferability' (Adapted from Rabb, 2007)

The assumptions that underpin game-centred approaches and direct teacher's actions are often located within constructivist learning theories (Light and Fawns, 2003). In doing so they offer a description as to what learning is in relation to a prescription as to the best way to teach (Quennerstedt, Öhman and Armour, 2014; Rink, 2001; Rovegno, 2006; Rovegno and Dolly, 2006). This gives rise to terms such as 'social constructivist teaching strategies' (cf. O'Leary, 2014) which appear to give theoretical justification to teacher's actions. According Davis and Sumara (2002; 2003) this has led to metaphors about teaching and learning which are often based upon misinterpreted assumptions of learning theory. Teachers can only say something about the socially constructed nature of their pedagogical approaches if they actually analyse what pupils 'do' as a result of their teaching (Barker, Quennerstedt, Annerstedt, 2014; Quennerstedt, Öhman and Armour, 2014).

Hager (2005) suggests that whilst 'constructivism' has become a popular means to understand teaching and learning, its many critics and interpretations has resulted in number of variants. Davis and Sumara (2003) warn that "rather than prompting a break from deeply entrenched habits of thinking, constructivist discourses have often been co-opted to support renewed and regressive embraces of Platonic and Cartesian assumptions" (p.123). Rather than providing a means to widen approaches to teaching and learning, Davis and Sumara (2003) highlight the dangers of using a theory of learning to teach. This can simply reinforce teachers' and policy makers' actual beliefs about learning.

Potential consequences of prescribing pedagogical practice

Hager (2005) presents these beliefs as an 'influential story' of learning which retains a tight hold over thinking about learning and reflected within educational policy and teaching practices (Hager and Hodkinson, 2009). Hager (2005) argues "for those who think of learning in terms of minds acquiring propositions that are relatively stable and unchanging, constructivism can seem a bizarre theory, especially when the learning situation is a formal one involving a teacher and a class of learners" (p.644). Such 'cognitive dissonance' or 'gap' between belief and action is created because constructivist approaches to learning are based upon ontological and epistemological perspectives that are very different to traditional, common-sense ideas of learning and knowledge (Butler, 2005; Davis and Sumara, 2002; 2002; Hager and Hodkinson, 2009). Indeed, Hodkinson, Biesta and James (2007) highlight some of the limitations concerning some 'post-Vygotskian' research. Specifically, that cognition remains privileged and disconnected to practical and embodied learning. Such position reproduces mind-body dualisms by falling into the trap of cognitivistic epistemologies of thinking, which disconnect thinking from the emotional aspects of experience. Simply prescribing ways of teaching without considering carefully teachers' own beliefs about learning and the purposes of education may not necessarily produce the desired change to their practices (Sicilia-Camachoa and Brown, 2008).

Thorburn and MacAllister (2013) draw attention to this issue in PE by rooting their exploration of subject-matter in Dewey's idea of education as 'growth'. They suggest that retreating to dualistic notions of learning in PE through 'exercise-as-useful, movement-as-understood and activity-as-enjoyed' have "failed to resource students with enhanced meaningful experiences" (p.463). Models-

based practices represent a response by some parts of the PE research community to overcome the limitations of such narrowly focussed pedagogical approaches. They have formed a popular focus for PE literature which Dyson, Griffin and Hastie (2004) and Kirk (2010), for example, suggest present a clear and tangible means of attending to sport and health discourses by position pedagogy within educational discourses. Such arguments for the adoption of models-based practice stem from critique of current practices and developments within teacher education. Tinning (2015) suggests that different pedagogical approaches are more than simply a set of tools or techniques; they represent a set of beliefs about the means to achieve particular educational goals or learning. He concludes "Pedagogies therefore, such as…. the 'traditional method' are implicit statements about ideology, valued forms of knowledge and practical epistemology."(p.7). Tinning (2015) observes the irony in the growth of the popularity of constructivist discourses within educational research, whilst modern educational ideology demands teachers to create a linear relation between knowledge and their classes. This is determined, particularly in the UK, by the expectation for pupils to achieve specific predetermined learning outcomes. Like Quay (2014), Tinning (2015) suggests pedagogical practices form a gathering point for users to adopt certain positions on knowledge and power. In reality he argues that pedagogy is more irregular and untidier than educational theories or specific pedagogical practices led us to believe. Tinning thus concludes that pedagogical encounters are "inherently complex and unpredictable" (p.5) and learning cannot be reduced to causal relations drawn, for example, between tasks and the teacher. Rather, the pupils, teaching and subject-matter interact in different and non-linear ways. In chapter 4 I take this point of departure and

consider an epistemological position from which to explore how these interactions create movement cultures within primary PE lessons.

Whilst constructivist and social constructivist theories of learning have shifted focus away from more behaviouristic notions of learning, using them as a theory of teaching has not necessarily transformed teachers' practices in relation to what is considered knowledge, what is valued as learning and how it is discussed and assessed. The latter are complicated by their location within systems of education which are also imbued with ideology about the purposes of schools and the activities which occur within them. Hedging the future of PE in schools on model-based practices, therefore, is not as safe a bet as it may first seem. Pedagogical models form a meeting point for ideas and beliefs about knowledge and may not necessarily produce the alternative conceptions of knowledge and learning in PE through which they were conceived. The future for PE may lie not only in equipping teachers with a range of pedagogical approaches but also a detailed consideration of how to position subject-matter within pupils' immediate experiences. This requires exploration of subject-matter in relation to what it might offer as possible PE experiences. Furthermore, how providing such experiences requires both curricular and pedagogical transformation of sports and physical activities.

Positioning subject-matter in the immediate experience of games movement cultures

There is much to be explored within the subject-matter of games movement cultures not only knowing 'what', 'how' and 'when' in the playing of recognised games but also the occupation of playing alternative and creating new games (Hastie, 2010; Quay and Stolz, 2014). Games, sports and play comprise

substantive parts of the subject-matter of PE and constitute movement cultures within and beyond the school gates (Crum, 1993). Defining these areas of movement culture has been extensively explored (Murdoch, 1990; Stolz, 2014a, Sutton-Smith, 1997). Games are goal orientated in which rules act differently to rules in society, in that they are designed to make it as difficult as possible for players to realise their goal (Meier, 1988). Sports are similar to games, but they require the explicit demonstration of specific physical skills and abilities. For example, games are purposive sports (Davis, 2007) in that it does not matter how goals are achieved as long as these are achieved within the rules. Some sports however, are not games, rather it is the manner of the achievement of the goal that is intrinsic to the goal, such as in aesthetic sports like gymnastics (Best, 1978), or that the achievement of a goal is defined by the skills employed, such as in rock climbing.

Games and sports are often celebrated for their complex physical and social practices, constituted by their rules. It is these rules which limit the means of player to achieve their goal and it is this which presents their source of interest through the physical and social challenges they present (Morgan, 2006). Stolz (2014a) suggests that a key issue in PE is the isolation of play in relation to games and sports. He argues often the overlap between play, sports and games is ignored and as such play is limited to definitions of non-serious, non-goal directed child-like action. Like Crum (1993) he considers the argument that sports and games form a human need and desire for movement beyond the labour of our daily lives. In doing so Stolz (2014) suggests that playing games enables us to adopt a different modes of ‘being-in-the-world’ other that of the performativity of western culture (Evans, 2012). He concludes that paradoxically, despite our lives

being directed by rules and targets, we still revel in the strict rules that define games and sport to discover different bodily possibilities.

Games, therefore, represent more than historical cultural practices which PE should dutifully reproduce. They are a potentially rich source of subject-matter beyond the learning of the technical aspects of codified sports. This may also constitute those games created by children with their own rules and conditions of play, specific to particular groups and environments in which they are played. Taking the position of learning as occupation allows games to become more than traditional codified sports to be learnt for an active adult life. Unfortunately, whilst their multifarious nature presents many different possibilities, this also comes laden with a complexity created by the interrelations between their structural form, the physical environment in which they are placed and the contextual challenges these create for their players. Their structural form, for example, created through rules, equipment and numbers of players, can be changed. These in turn alter the contextual challenges they present, such as the different ways players interact with each other and the physical environment to overcome these challenges. It is the complexity of these relations, in addition to the reality of teaching in often unpredictable school environments, which create significant pedagogical and curricula challenges to practitioners (Smith, 2014). When considering these challenges it is not surprising that teaching within primary PE may not deviate much from the linear assumptions of learning adopted by PE-as-sport-techniques.

It is this narrow practice of teaching isolated techniques that has led to the urge to promote game-centred models within PE. However, despite the proliferation of positive research surrounding the benefits of models-based

practice, their uptake has, for example, in the case of TGfU, “passed by practitioners without major effect” (Almond, 2010; p.vii) and PE teachers have not changed the way they teach (Capel, 2005; Capel and Blair, 2013). In effect there exists a significant gap between research and practice (Armour and Chambers, 2014; Kirk and Haerens, 2014). This inertia to change in the practice of teaching games is complex and has been the subject of scholarly interest, in particular; the occupational socialisation of PE teachers (Curtner-Smith, 2001; O’Leary, 2014), the formation of values and beliefs about teaching and learning before teacher training (Placek et al., 1995; DeCorby et al. 2005; Morgan and Bourke 2008) and personal conceptions or ideologies of PE teachers (Green; 1998; 2000; 2002).

Stolz and Pill (2014) suggest one of the causes of the gap between proponents of game-based models and PE teachers resides in the way each group approaches theory. They argue that PE teachers are required to contend with the everyday realities of their contextual environments. This means although certain pedagogical practices are derived from theory, PE teachers see ‘good’ teaching and learning as primarily a form of practical wisdom developed through experience. Tinning (2015; p.7) similarly argues that ways of teaching and constructing curricula, such as that characterised by PE-as-sport-techniques are ‘contingency-shaped’ within the imperfect contexts of PE teaching; large classes of school children, vagaries of weather and available equipment and playing spaces. It is these environmental aspects which take a prevailing role in shaping PE practice and as such Stolz and Pill (2014) suggest "games teaching is more likely to be derived from desired student achievement standards or curriculum documents not a ‘blue-print’ for practice.” (p.10). As a consequence they argue teachers tend to separate educational practice from theory. This is in direct

contrast proponents of these approaches, whom view theory and practice as integral parts. It is this difference which Stolz and Pill (2014) argue makes it hard for PE teachers to see the value of game-centred models unless they result in learning something which they intended to be learnt. Such a context is created by the educational policy in which teachers work but also the dualist views about knowledge and learning teachers often hold. Stolz and Pill (2014) conclude that potential common ground between researchers and teachers resides in the joint venture of considering learning by adapting what they are able to control; the environmental and task constraints within games activities (Newell, 1986; Renshaw et al., 2010). This resonates with Dewey's (1938/1997) call for teachers to consider the 'objective conditions' of experience and the need for them to "not only be aware of the general principle of the shaping of actual experience by environing conditions, but….recognize in the concrete, what surroundings are conducive to having experiences that lead to growth. Above all, they should know how to utilize the surroundings, physical and social, that exist so as to extract from them all that they have to contribute to building up experiences that are worthwhile" (p.40).

Hopper (2010) presents a non-linear view of learning trajectories that evolve from interactions with environmental and task constraints. This employs a Deleuzian perspective of learning (Gale, 2007) which Semetsky (2003) suggests is not unlike that proposed by Dewey. Using the position of constraints derived from Newell's work (1986) on motor learning, Hopper (2010) presents a complex teaching and learning framework. The basic tenant of such approaches is rooted in the manipulation of task and environmental constraints which are employed to support the exploration of subject-matter within learning goal directed activities

demanded by contemporary PE. Whilst such approaches draw from dualistic positions it offers a useful position from which to consider the manipulation of the controllable constructs of games. This can support teachers to create particular games play experiences for their pupils and may also support children to develop a critical position on these experiences. Publication 4 uses this position to consider a gap between games-centred models and games as subject-matter. Frameworks are presented in order to support teachers to conduct both the pedagogical and curricula work required by a models-based approach. Using mainstream codified games as a common starting position these frameworks utilise a constraints perspective to map the functional relations between rules, tactics and skills. For example, rules create particular tactical problems which can be overcome by tactical solutions supported by the application of 'on-the-ball' and 'off-the-ball skills'. These tactical solutions form principles of play that provide an executive purpose for the players' actions. By understanding the functional relations between rules, tactics and skills it is argued that teachers are in a more informed position to access the working principles of game-centred models. Contextual factors such as localised variations in surfaces, equipment, space and pupils' own experiences and skills can be accommodated by manipulating rules to draw attention to particular relations between, for example, certain types of interactions between players.

Chapter summary

I discuss the relations between learning as occupation and Dewey's theory of experience in this chapter. I argue this position provides a different ontological and epistemological understanding of what constitutes knowledge by locating it within the subjectivity of experience. I employ this understanding to consider PCK

as a means to understand teacher's positioning on knowledge and learning. In particular, how these positions constitute learning in games within primary PE. Publication 3 employs this standpoint and suggests that the structure of the primary school teachers' knowledge of games played an important role in the narrow curricula constitution of games learning within their schools.

A potential solution to this issue resides in the form of game-based pedagogical models. These are then examined from the position of learning as occupation. My analysis of the possibilities games may offer to learning as occupation reveals their structural and contextual complexity. Publication 4 argues this challenge to primary teacher's expertise is often overlooked by games-based models. In response I present frameworks to support both the pedagogical and curricular transformation of games as subject-matter required by a models-based approach.

Chapter 4

Exploring Primary PE Movement Cultures

Introduction

In chapter 3 I discussed Dewey's theory of education as occupation as a position from which to consider the 'arranging' and 'doing' of teaching games in primary PE. Such a position challenges teachers to place subject-matter into pupils' immediate experience, rather than privilege learning subject-matter for a distant adult future. However, publication 3 discovered the favouring of narrow, sport-skills focussed subject-matter knowledge by primary teachers. This was adopted for the purpose of teaching sports for pupils' future adult lives. Publication 4 thus proposed frameworks to support primary teachers in creating learning contexts within which pupils can learn skills and tactical solutions, whilst also enjoying the immediate experience of playing games. As with much research within PE pedagogy these publications discuss issues in relation to 'what' and 'how' teachers teach. However, research which analyses, rather than discusses, learning within the subject is less prolific (Quennerstedt, Öhman and Armour, 2014). Quennerstedt and Larsson (2015; p3) suggest research which considers "who is teaching, who is learning, when and with whom" have the potential to overcome such limitations by aiming to offer more embedded and situated understandings of teaching and learning within PE.

Situated perspectives of learning have drawn attention to the situated and constrained actions involved in teaching and learning within PE (Amade-Escot,

2000, Kirk and Macdonald, 1998; Light, 2011, Rovegno, Nevett, and Babiarz, 2001). Similarly, the contextual nature of learning within membership and participation of a social group has also been explored within PE contexts (Goodyear, Casey and Kirk, 2014; MacPhail, Kirk and Kinchin, 2004). MacPhail, Kirk and Griffin (2008) in particular discuss learning in relation to how pupils actively engage with subject matter within three situated dimensions; perceptual/physical, social/interactive and intuitional/cultural. By focussing on the specific location and structuring of the learning site, such research has not been in a position to focus on continuity in learning and the influences of wider social contexts (Quennerstedt, Öhman and Armour, 2014). Bringing continuity within view allows the 'change' aspect of learning to be considered. This temporal dimension to learning means change does not always happen in isolation as wider social contexts also influence learning. Recognising the latter entails understanding the scalar dimensions of learning. Taken together these temporal and scalar dimensions of learning constitute cultural activity or learning as action. According to Biesta (2011) these sociocultural aspects of learning are important features in understanding learning as a cultural activity.

Sociocultural approaches help researchers to consider teaching and learning in its cultural, institutional and historical contexts (Quennerstedt and Larsson, 2015). They also aim to avoid cognitivistic conceptions of learning encompassed within situated perspectives of learning conceptualised in general educational research. The aim of this chapter is explore how sociocultural accounts shift ontological debate about learning and knowledge into epistemological questions about how action constitutes knowing within PE. In doing so, I aim to achieve the second purpose of this thesis; to explore how pupils'

and teachers' actions within primary PE lessons constitute and negotiate the movement cultures within their school.

To address this purpose I first draw from my exploration of Crum's (1993) conceptualisation of PE as movement culture in chapter 1. Crum's (1993) recognition of the mutuality between PE and movement cultures beyond the school gates, suggests that the re-actualisation of pupils' and teachers' own understandings and interpretations of sports will create unique PE movement cultures. When viewed from this perspective learning within PE becomes constituted through cultural practice. This action based theorising of learning is characterised by reciprocal rather than causal, linear relations between doing and undergoing the consequences of doing. Responses from the environment are not considered the start of an action, but come to change the direction of action, which is already ongoing. From this standpoint learning becomes constituted through action-in-ongoing events. Potential ontological fault-lines created between internal-external perspectives on learning are helpfully dissolved. However, they become superseded by the epistemological challenges of researching learning as action.

To examine potential solutions to these epistemological challenges, I begin by considering broad debate relating to differing ontological positions on learning. In doing so, I draw distinctions between constructivist and sociocultural theories to show how considering learning as cultural practice requires the researcher to adopt an epistemological position. Such a standpoint is required to recognise influences of other cultural contexts whilst at the same time, being open to the consideration of continuity and changes in these cultural practices. This is because they are represented by functional processes and practices of learning

which may not be limited to a particular context. In exploring potential epistemological approaches that aim to research learning in situ, I discuss the useful position that learning as co-participation in cultural practices provides. Hodkinson, Biesta and James (2007), however, raise a number of action, scalar and temporal issues that this approach creates. To address these I draw from Dewey and Bentley's (1949/1976) transactional position on learning which supports the consideration of educational purposes in relation to the analysed learning. I argue that this is a stronger position from which to analyse educational change, rather than other alternative approaches, which may privilege more linear, context specific relations between teaching and learner behaviours (Lidar, Almqvist and Östman, 2009).

Transactional positions on learning are an emerging field of research within PE. An overview of this research locates the theoretical context to address my final research question; what does the dissolution of mind-body dualisms reveal about learning within everyday primary PE movement cultures? Publication 5 explores how actions-in-PE-settings shape and maintain the cultural/institutional dimension of learning within primary PE movement cultures. The findings are explored further in publication 6 which investigates how both pupils and teachers negotiate these movement cultures. It is to a cultural perspective of learning that I now turn, in order to introduce this alternative sociocultural approach to researching learning.

A cultural perspective of learning

Contemporary uses of the term 'culture' tend to highlight the distinctiveness of a particular sphere of activity such as that described by 'business culture' or

'research culture'. Such uses of the term, however, hide a complexity which is not limited to conceptual or semantic issues, but conveyed through relations between usages and understandings of the term and ideological agendas. Sewell (1999) suggests that culture can be best understood from two broad perspectives. The first relates to anthropological uses which describe culture as evolutionary patterns of behaviour, networks of relations and institutions defined by values, beliefs, ideals and artefacts. These approaches to culture attempt to understand the work of social relations as complex wholes (Avruch, 1998). In contrast, the second perspective attempts to identify an aesthetic value within a culture by demarcating or rejecting forms of music, art, language and literature as 'high', 'popular', 'youth' or 'minority' culture. These uses are imbued with power relations and lead to understanding about what social groups do with culture, what it does to them and how it is reproduced, transmitted or the capital it provides (Swartz, 1997).

These questions have been tackled by iconic theorists within the field of socio-cultural research. For example, Gramsci (2006) uses the term 'hegemony' to describe the political, economic and cultural dominance of one social class over another. This provides a theoretical position from which to understand sites of struggle against the hegemony of the dominant culture. Gramsci's work, for example, locates these sites by focussing upon the constant contradiction between ideology and the social experience of the subordinate. The theorising of schools as controlling agents in the transmission of a dominant culture is conceptualised within the authoritative body of work by Pierre Bourdieu. The analysis of pedagogic communication through the use of language within French schooling, conducted by Bourdieu, is developed, for example by Basil Bernstein's theorising of pedagogic discourse as agent of social control. These socio-cultural

theories provide substantive theoretical positions from which to conduct epistemological work within educational cultures. For example, Giroux (2003) examines contested aspects of schooling by accounting for resistance within educational practices. Such research has built upon these significant socio-cultural theories and provides insight into the dynamics and tensions of pedagogical relationships, the negotiative character of curriculum transactions and that classroom power is not one way (Alexander, 2011; p.165).

Biesta (2011) contends it is inequalities in power, produced by the different positioning of individuals within a culture, which influences their capacity to shape and change it. This change and continuity in culture extends from the 'enacting' or practice of culture and the embodiment of 'materialities' within a culture (Biesta; 20011; p.203). In this way cultures become both agenetic and structuring, in that an individual cannot be entirely determined by a culture but also is not completely free from its influence. When using this position to consider learning as a cultural practice within schools, the picture becomes more complex. According to Alexander (2011) schools select cultural values and ideals that are structured within buildings, classrooms, curricula and teaching, that can in turn both restrict or enable learning. Schools also filter and retain their own particular cultural messages, thus creating cultures in 'their own right' (Alexander, 2011; p.164). Within these cultures pedagogical environments are aimed at pupils who are additionally members of cultural groupings, both within and beyond the school gates. These groupings are defined by complex combinations of class, gender and ethnicity. According to Alexander (2011) such localised and wider dimensions of school cultures require both restricted and extended understandings of learning as a cultural practice.

Biesta (2011) refers to these restricted and extended understandings as issues of time and scale. These create complexity because learning cultures do not have clear boundaries and require looking beyond the immediate context in which practices occur. Learning cultures also exist in the actions of those who are able to take part and constitute the culture, which in turn creates their dynamic and changeful nature. Understanding learning culturally also requires consideration of learning as a social practice, which occurs not only within a cultural context but is also a cultural practice, per se (Biesta, 2011). This additional dimension of action to the time and scale of learning involves understanding how practices create or impede learning opportunities for those who constitute the practice of learning. According to Biesta (2011) whilst identifying learning contexts is relatively straightforward, exploring learning cultures is more complex. It requires researchers to 'follow the learning' using action, scale and time, involving both an understanding of learning as culture as well as a cultural theory of learning (Biesta, 2011; p. 204).

Sociocultural and constructivist theorising of learning

Cultural theories view learning as something which is not limited in the mind but is practical, embodied and social. These approaches to learning contrast with more dualistic theories which view learning as a process of internalised construction. Thus tensions arise between competing views of mind and knowledge located in the brain, versus, knowing-in-social-action. This tension is explored by various scholars for example, Bruner (2009) employs the terms 'computational' theories and 'culturalism' to discuss their differences. Using a metaphorical analysis of this tension, Sfard (1988) presents 'participation' versus

‘acquisition’ theorising of learning. Rather than risk a position of hegemonic ideology by siding with one perspective, Sfard (1988) suggests it is important to consider what each perspective may offer relative to particular problem. This theoretical pragmatism aims to shed light on the differences yet complementary aspects of the tensions between, for example, constructivist theorising of learning and sociocultural approaches, where “one perspective constitutes the background against which the other comes to the fore”(Cobb, 1994; p.18) .

Whilst both constructivist and sociocultural approaches to learning place joint emphasis on activity, constructivist learning theorists privilege individual psychological constructions. These are developed through sensory-motor and conceptual activity, although there is a recognition that they will vary from the intentions of the teacher. Such perspectives are couched in Piagetian theoretical heritage which views learning as products of assimilation and accommodation (Silcock, 2013). From this position knowledge represents the organisation of viable conceptual operations that evolve from experience (Solmon, 2006). In contrast, rather than being in the mind, sociocultural accounts position the psychological activity associated with learning between organism and the world. An example of this theorising achieved by pragmatist philosophy was explored in chapter 2.

The existence of mind is not denied by sociocultural theorists rather, operations of the mind are seen as being mutual with the body and the environment (Dewey and Bentley, 1949/1976). The cognitive aspect of this participation in culture is theorised in different ways, for example, activity theorists such as Leont’ev focus on the role of practical object-orientated activity in

developing thought processes (Engeström, 2006). Vygotsky on the other hand privileges social interaction with more knowledgeable others in the zone of proximal development. This places emphasis on the role of culturally constructed signs and symbols as tools for thinking (Moore, 2012). Such constructs have been explored and theorised further, to include accounts which focus on, for example, cognitive apprenticeship (Rogoff, 1995) and legitimate peripheral participation (Lave and Wenger, 1991).

Positioning learning as action, as co-participatory activity in cultural practices, has been a particular feature of sociocultural research within PE. Research in this area has explored how pupils' interactions with their environment can be understood through "layers of physical, sociocultural, and institutional contexts" (MacPhail, Kirk and Griffin, 2008; p.101). In these approaches, knowledge and knowledge production in PE is viewed as a process of participation in and becoming a member of PE practice (Quennerstedt, 2013b). From this position, learning and the impetus to learn, is considered a relation of the meanings pupils ascribe to an activity. It is through meaning making that pupils come to understand the world thorough particular contexts. This provides a basis for cultural exchanges in which learning becomes integral to communicating. The use of cultural tools such as symbols and artefacts through language subsequently becomes a key focus for sociocultural research (Säljö, 2009; Wertsch, 1998). However, within practical PE contexts both verbal and bodily actions become the tools and focus for meaning making. According to Quennerstedt, Almqvist and Öhman (2011) relations between others through movement and artefacts, such as rackets and balls, thus become particularly significant for understanding learning in PE practices.

According to Silcock (2013) the theorising of learning as co-participatory activity in cultural practices often focusses upon the role of interaction with teachers in influencing learning. As a consequence this position has been used to ascribe teaching behaviour. Indeed, as Moore (2012) argues contemporary educational discourses place significant emphasis upon the central role of the teacher in enabling pupils to participate in activities of the expert. This has been considered more palatable than privileging cognitive process and conceptual structures in which individual dispositions in relation to brain functioning are explicitly considered (Silcock, 2013). That said, in the UK recent political educational discourses have begun to swing to favour this notion of learning and knowledge (cf. Gove, 2014). Rather than resorting to essentialist assumptions about learning by siding with one approach or the other, Sfard (1988) suggests that each approach has value which the other cannot provide. Cognitive perspectives might argue that sociocultural perspectives do not adequately account for the individual process of learning. As a result they are unable to discuss how learning transfers between different situations. On the other hand, sociocultural theorists might counter this by arguing that constructivist theories are unable to recognise how the same individual might make meanings from different situations.

Rogoff (1995) suggests even when considering both the individual and the environment, their division into separate entities means that both approaches will continue to reach different conclusions. Rather than using the individual and the environment as separate units of analysis, Rogoff (1995) argues that they should be approached as being mutually defined and interdependent. Lidar, Almqvist and

Östman (2009) believe what is needed is an approach that considers the dynamic relationship between psychology and culture. To achieve this position they turn the ontological debate into an epistemological question i.e. how do experience and the situation constitute learning through a dynamic, mutually constituted, ongoing process? (Quennerstedt, Almqvist and Öhman, 2011).

Adopting this position in which learning is considered as cultural practice creates particular challenges when understanding learning within educational institutions. Schools are geared toward the achievement of particular purposes in which some sort of change is being sort for their pupils. Locating this change and analysing it becomes imbued with ideology and value judgements about what it is to 'know' and 'do' within education (Biesta, 2011). Packer and Goicoechea (2000), for example, draw our attention to the issues this presents when adopting a sociocultural or constructivist position on learning. They explain that schools are sites where the dualisms between internal and external drawn by constructivist perspectives are produced; classrooms represent an "autonomous reality of social positions, objective rules and decontextualized abstractions, which require the rational understanding and manipulation of written symbols" (p.239). However, they argue these only appear independent and objective, as in reality they can only be sustained by interaction. Therefore, without these relational and cultural dimensions of schools, learning would not occur. Ignoring this meaning making overlooks the relations between schooling and human development. Packer and Goicoechea (2000) conclude that the epistemological aspects of human change; the systematic consideration of knowing, are always part of the ontological aspects of human change; what it means to exist. In other words, what constructivists call

learning is only part of a larger process of human change, a process called learning by sociocultural theorists.

Understanding the change or temporal aspect of learning requires it to be identified. This involves value judgements about what might or be might not be being learnt. According to Biesta (2011) it is only when such judgements have been made that learning can be identified. He suggests this reveals the importance of not only theorising learning, through the relations drawn between constructs and processes, but also conceptualising what learning is deemed to represent. Biesta (2011) emphasises that the latter approach reveals learning to be both an evaluative and retrospective term, which we use to identify the value of a particular change after this change has occurred. Therefore, rather than framing learning as culture Biesta (2011) suggests understanding learning as 'educational culture' encompasses the aims and objectives of a particular educational practice. This, he argues, is complicated by the various purposes of educational practices, developing; qualification (knowledge and skills), socialisation (membership of practices and traditions) and subjectification (qualities such as autonomy and compassion). These may collaborate but also exist in tension and conflict where change in one aspect may obstruct progress in another. Biesta (2011) subsequently concludes that the temporal, scalar and action dimensions of learning become key considerations of researching educational cultures.

Action, temporal and scalar dimensions of learning within PE

Identifying learning from a sociocultural perspective within PE has initially involved exploring the scalar dimensions of learning in particular the roles of distributed cognition within contextualized situations. These situated approaches

have drawn particular attention to the situated and constrained actions involved in teaching and learning. For example, MacPhail, Kirk and Griffin (2008) discuss learning in relation to how pupils actively engage with subject matter in relation to three situated dimensions; perceptual/physical, social/interactive and institutional/cultural. Research within this field has examined these dimensions in relation to particular pedagogical approaches, such as sport education and games-based models like TGfU (Kirk, Brooker and Braiuka, 2000). However, by focussing on the specific location and the structuring of the learning context, analysis that embraces the influences of wider social contexts and continuity in learning has not been possible (Quennerstedt, Öhman and Armour, 2014). These issues of scale, time and action created by investigating learning from situated perspectives create particular methodological problems in the investigation of learning.

Quennerstedt et al., (2014; p.5) and other sociocultural researchers cite the limitations of situated perspectives employed by general educational research identified by Hodkinson, Biesta and James (2007), specifically their tendency:

1. For individual differences and individual learning to disappear through the focus on social interactions, activities and participation.
2. To focus on specific locations of learning which can overlook wider social, cultural and structural influences
3. To give issues of inequality and power relations within and beyond the site a lower profile.
4. To separate individual agency of learners from the social structures they inhabit and not include both.
5. For a focus on cognition, rather than viewing learning as practical and embodied.

According to Quennerstedt (2013a; 2013b) one way to address these issues resides Dewey and Bentley's (1949/1991) transactional understanding of learning. In chapter 2 I discussed how this theorising argues that mind is a function of human action and cannot be considered as a separate entity. Dewey (1938/1997) challenges the ontological separation of mind and body, in particular the notion that mind is the location for learning and cognition and that the latter is superior to emotional and practical aspects of human existence.

Action dimensions

Such a relational position of action means the activities of an individual cannot be considered in isolation, and in doing so, creates a mutually of organism-in-environment-as-whole (Dewey and Bentley, 1949/1991). Östman and Öhman (2010) argue that rather than simply creating a new ontology about learning, this position develops a significant epistemological position. One that takes action as the "way we live through events in real life" (Östman and Öhman, 2010; p.4) as the point of departure. In contrast to 'interactional' approaches which describe causal interconnections between predetermined entities, a transactional perspective does not consider learners and environment to be predetermined or autonomous (Östman and Öhman, 2010). Adopting such a position for investigating learning in situ, means ontological fault-lines created between internal-external perspectives on learning are replace by epistemological concerns. This shifts the focus on the processes that take place in the encounters between human beings and their environment. Biesta (2011) explains that it is at this practical and embodied level that first of all "learning takes place and takes shape…..learning that is itself embodied" (p.203).

The emphasis on practical and embodied action, however, does not mean they are no more than a representation of the "subconscious transformation of dispositions" (Biesta, 2011). As discussed in chapter 2 reflection also plays an important role in learning providing the opportunity to transform actions into new meanings, which are brought to other encounters. In other words, it is in the transactional process that meaning making occurs not as something which exists within a thing itself or in a person's mind, but is mutual to the relations created in and by action (Quennerstedt, Öhman and Öhman, 2011). Meanings become something 'we do' and this implies that learning can be considered to be not only practical, but also social, in which communication becomes essential to the sharing of meanings and understandings. For Dewey communication does not simply involve a transfer of information but entails a practical coordination of action, which creates something 'in-common' (Biesta and Burbules, 2003). This coordinative quality of communication means learning thus becomes reflective of meaning making, resulting in a more developed and specific repertoire for co-ordinating activities and the environment (Östman and Öhman, 2010).

When considering 'action', the dissolution of historically pre-given division between mind, body, physical and social environment, helps to address the cognitivistic approaches of situated perspectives identified by point 5 of Hodkinson, Biesta and James (2008) critique. It also presents a solution to specific epistemological challenges presented by analysing learning within PE settings (cf. Quennerstedt, Öhman and Öhman, 2011). Using meaning making as a unit of analysis within PE allows the researcher to focus upon pupils' and teachers' actions in relation to certain events-in-PE-settings. This focus on actions

enables the consideration of the meanings represented through the relations between the milieu of spoken and embodied actions that constitute PE practice.

For example, pupils' different encounters with PE curricula, instruction, locality, equipment, other pupils and adults can be understood as transactional experiences. This includes actions such as hitting a tennis ball to a partner, in addition to the passive phase of undergoing the consequences of such action on the self, the partner, other people and the objects themselves. When everything happens without hesitation actions can be said to be are made 'in-common' as a learnt, habitual way of acting within the observed event (Biesta and Burbles, 2003). These can be considered as habits-of-action, however, when this direction of action is interrupted and pupils or teachers need to find an appropriate response, a change in action occurs which can also constitute learning (Klaar and Öhman, 2012). Learning within educational contexts not only occurs in relation to particular aspects of subject matter, but also within situations in which pupils acquire and re-actualise norms, values and views of the world. This 'socialisation' aspect of learning has often been treated as a separate dimension in educational research (Biesta, 2011). However, by approaching learning from a transactional perspective it becomes part of the practical, moral, aesthetical meaning making connected to the studied event (Quennerstedt, Öhman and Öhman, 2011).

Temporal dimensions

Whilst this learning-as-situated-action perspective resolves some of the issues raised by Hodkinson, Biesta and James (2007), accounting for the continuity and change dimensions of learning, i.e. the temporal and scalar aspects raised in points 1-4 of their critique, also requires addressing. For example, Sfard

(1998) brings into question the ability of sociocultural studies of learning to account for the transfer of actions between contexts or the 'situational invariant property of the learner' (p.10). Dewey (1938/1997) considered this aspect of learning by arguing "Every experience influences in some degree the objective conditions under which further experiences are had" (p.37). A transactional approach encompasses the mutuality between continuity and change by recognising that pupils and teachers re-actualise their experiences in relation to the meanings generated from a particular event. In this way earlier experiences are recognised as "being part of the event in action in the certain situation" and change becomes the relations pupils draw between their immediate and past experiences (Quennerstedt, Öhman and Öhman, 2011; p.165). These new relations lead to new or extended meanings of the re-actualised actions.

This perspective means that prior experiences are not considered as units of memory linked to the past, but something which changes continuously through different experiences. By adopting this position on continuity and change, a sequential notion of time as past, present and future becomes dissolved (Östman and Öhman, 2010). An event within a PE setting thus becomes a site where past, present and future mutually coexist in which "the present extends through the past and future" because all events are extensions of previous events, focussed towards future directions of action that are yet to be enacted (Rogoff, 1995; p155). Dewey (1934/81, p.10) termed these directions of action 'ends-in-view'. According to Garrison (2001) ends-in-view are not fixed but are adjusted at every stage of a process of inquiry in order to create a 'newly assured, smoothly fitting … stabilized situation' (Boisvert, 1998, p.39). Even play activities, which are often regarded as being free of particular 'ends', are subject to ends-in-view. Whilst these may not

be represented as external objectives constituted by the social or physical environment, play is governed by the self-regulation of action. Participants are considered free and thus playful, because they are able to change their ends-in-view if fulfilment is not being achieved (Garrison, 2001). Garrison (2001) argues this idea of playfulness in the process of inquiry adopts a creative "non-teleological interpretation of intentionality" (Joas, 1996; cited by Garrison, 2001; p.280). These teleological goals form subfunctions of functional coordination. Ends-in-view allow intelligent action by acting as plans which direct and redirect action to shape the course of events by allowing us to "see where we are going" (Garrison, 1999; p. 293). When experiences within events are confirmed and not overturned, inquiry is no longer necessary and the situation becomes stable (Garrison, 2001). From this perspective, knowledge is not something that is certain and truthful, but contextual and temporal, which emerges from a stable outcome of inquiry.

Scalar dimensions

Ends-in-view as a unit of analysis of meaning making can help to resolve the action and temporal issues identified by Hodkinson, Biesta and James (2007) in points 3 and 4 of their critique. This leaves the scalar issues of learning raised in points 1 and 2 to be addressed. Hodkinson, Biesta and James (2007) argue that learning theories are inclined to focus on either individual learning within a particular context or the participatory practices of this context, rather than considering both as mutual aspects. From a transactional position meanings are not isolated from the situations and events in which they occur and the learner is considered as a participant-in-transaction (Quennerstedt, Öhman and Öhman, 2011). Learning within PE from this position becomes considered as part of pupils and teachers- acting-in-PE-settings, actions, which in turn constitute the

sociocultural context. Rogoff (1995) therefore argues that analysis of meaning making cannot be limited to the separation of the environmental or individual aspects of learning. A transactional perspective enables the co-constitutive aspects of these dimensions to be considered. Drawing from Rogoff (1995), Quennerstedt, Öhman and Öhman (2011; p.166) therefore argue that, rather than isolating pedagogical encounters within PE, they can be explored in relation to the:

- Individual dimension – participants' previous experiences
- Social dimension – relations with other people
- Cultural dimension – the cultural, institutional and physical context of the situation

They suggest that adopting a transactional approach means each dimension becomes investigated 'in action' (p.166) in what is re-actualised or appears in a particular event. This requires the mutual consideration of the three dimensions of action through the functions they constitute. Quennerstedt, Öhman and Öhman (2011) explain such epistemology enables the researcher to bring one of the dimensions to the foreground and study it in relation to the others as parts of the same reality. Such an epistemological approach to learning, helps to dissolve the dualisms between individual and social structure, and also circumvents issues created by replacing one metaphysical position of learning with another.

According to Quennerstedt (2013b) in order to avoid dualistic positions on learning there is a temptation to switch to an equally difficult metaphysical holism such as that provided by phenomenological account of experiences in PE. Whilst dualistic accounts of meanings determine that they are related to specific predetermined structures, holisms treat everything as part of an unstructured dynamic complexity (cf. Clegg, 2011; Thorburn, 2007; Stolz, 2014b). This results in a position which overlooks contexts where things appear separate or where

separation provides a useful perspective for understanding (Östman and Öhman, 2010). A transactional position makes distinctions empirically, rather than either seeing them as being preconceived or considered methodologically impossible. The additional danger of swapping a dualistic approach for a holism is that they transform methodological assumptions into general universal explanations of phenomena by privileging one feature as the explanation of reality. Quennerstedt (2013b) suggests that these issues make organising our understanding about learning within PE particularly difficult. He concludes that rather than adopting predetermined theoretical or methodological positions, taking action as a point of departure shift questions about 'learning' from and an ontological question into an epistemological challenge. This challenge has been approached in various ways, determined by the physical actions and spoken words being studied in situ.

Transactional studies of learning

In transactional studies the direction and changes in directions of actions become important events to analyse meaning making. Klaar and Öhman (2012), for example, focus on the direction of non-verbal bodily actions to investigate toddlers learning encounters with nature. Using visual data of a toddler directing his actions toward climbing a slippery slope, they make a distinction between events in which things are immediately intelligible and unproblematic, with situations in which things appear unexpected and require investigation. They argue this creates a 'gap' in action which needs to be 'filled' in order to allow action proceed towards the purpose (p.446). This focus on the interruption of action provides a point of departure from which the relations between previous habits and the new experience can be investigated. Such an approach allows them to use an analytical framework developed by Wickman and Östman (2002a) called Practical

Epistemology Analysis (PEA). In this context PEA is employed to focus upon the physical, non-verbal actions of the child, specifically how he changes his actions to overcome a snow covered incline. By studying an observed change in the child's walking action to allow him to progress up the slope, Klaar and Öhman (2012) conclude that they can say something about the practical and physical meanings made by the child. Specially, in relation to how knowledge about surface qualities, friction and balance is constituted in and through the child's physical actions.

The heuristic framework of PEA has also been used to analyse other kinds of empirical material such as recordings of teacher and pupil discussions (Lidar, Lundquist and Östman, 2006, Jakobson and Wickman 2008) and written stories (Maivorsdotter and Wickman 2011; Maivorsdotter and Quennerstedt, 2012). The latter has been achieved by combining transactional approaches and Wittgenstein's theorising of language games. Within this work 'gaps' have also been used as points of analysis, to explore meanings made through reflections about, for example, aesthetic experiences of running or learning to skate. Other analytical tools have emerged from transactional research such as Epistemological Move Analysis (EMA) and Substantive Learning Quality Analysis (SLQA). These have been developed to support the investigation of particular aspects of the interplay of actions in learning contexts. Originally developed by members of the research group Studies of Meaning Making in Educational Discourses (SMED), EMA has been employed to investigate teachers' roles in children's learning and how they guide the teaching processes (cf. Klaar and Öhman, 2014; Lidar, Lundqvist and Östman 2006; Rudsberg and Öhman 2010). For example, from analysis of different moves made by science teachers, Lidar, Lundqvist and Östman (2006) demonstrate how EMA can shed light upon the

interplay between the epistemological dimensions of teaching and the 'how' and 'what' of learning. In their case they identified the functional relations between verbal actions of teachers and the quality of the resultant directions of meaning making taken by pupils. In order to better understand the different qualities of learning content a teacher may guide pupils towards, researchers have also used SLQA. For example, by exploring different modes of experiences, such as cognitive, physical, moral and aesthetical, Klaar and Öhman (2014) make connections between epistemological moves by the teacher and the subject content pupils are directed towards.

Whilst Klaar and Öhman (2014) make value judgements by identifying learning through different modes of experience, they do not aim to draw attention to different qualities of teaching. Rather they aim to present the multi-dimensionality of teaching as basis for discussing learning amongst stakeholders within preschool contexts. This approach aligns itself with that proposed by Biesta (2011) who argues that cultural perspectives of educational improvement should emerge from the educational purposes framed by the practice being investigated. This provides the place from which to explore the temporal, scalar and action dimensions that may impede or facilitate learning. He argues the value judgements about what is desirable i.e. the purposes which frame the setting should feed into the research and that the outcomes should feedback into practice. With some exceptions, research within PE has tended to focus on teaching, such as the desire to test a pedagogical approach to achieve particular learning behaviours (Quennerstedt, Öhman and Armour, 2014). Research which assumes a position of learning as a mutual part of education culture would need to consider both the educational purposes of the learning context, in addition to conducting

analysis of the learning; as constituted by the actions of the teacher and pupils. Such an approach holds both to account rather than only privileging the pedagogical purposes of a chosen teaching approach. This point is echoed by Quennerstedt (2013b; p.330) who argues that if PE is to be considered as a school subject which is about knowledge and learning, it is important that research on learning enables the investigation as to what 'counts' within PE practice. Such investigations have the potential to make a useful contribution to policy and practice, by enabling the PE community to better understand how PE practices constitute the subject as a context for knowledge and learning.

Transactional studies of PE practice

Focussing upon how participation within PE practices constitutes the subject in school settings, requires a different approach to transactional analysis than that which has utilised the analytical tools of PEA, EMA and SLQA. This is because action tends to be continuous and 'gaps' less easy to discern which make it difficult to analyse the individual dimensions of learning. Rather than focussing upon 'gaps' in the direction of actions, this body of work focuses upon habits-of-action and brings to the fore the cultural/institutional dimension of learning. Although as with all transactional analysis this is analysed in relation to the individual and social dimensions (Rogoff, 1995). Quennerstedt, et al. (2014), for example, fully embrace Biesta's vision for action orientated research, by proposing an approach to investigate the 'how' and 'what' of learning within PE. Such research builds upon a similar approach within the French Didactique tradition that explores teaching, pupils and subject content within one system of relations. Quennerstedt, et al., (2014) argue by employing rigorous methodological steps, the quality of learning can be explored through the functions of actions constituted

by participants acting within the learning context. Within this work 'didactic moments', in which the individual, social or cultural aspects of learning come to the fore, are considered important aspects of the actions taking place (Quennerstedt, et al., 2014; p.295). This may reflect how pupils re-actualise their previous experiences of sport (individual), how they communicate with each other (social) and how the lesson aims guide the pupils towards particular directions of action (cultural/institutional). These are then analysed within the context of educational purposes alongside the teacher. In doing so, they aim to present a method to support the reflexive development of pedagogical expertise. By focussing on actions this approach also enables the scalar and temporal aspects of the educational culture to be explored in relation to the pedagogical system within the learning context. Such a process addresses the first three points of concern about situated perspectives raised by Hodkinson, Biesta and James (2007), by enabling a focus on both individual and wider social and cultural influences. Quennerstedt, et al. (2014) additionally argue that their focus on action as a point of departure permits issues of power relations within the learning situation to be accounted for because they are reflective of the direction and redirection of actions.

By combining a theoretical position on discourse and a transactional approach to meaning making, Quennerstedt (2008b) specifically aims to explore the relation between power and meaning making within PE. This is achieved by bringing to the fore the institutional dimension of meaning making through examination of PE curriculum documents. Principally, he discovers the privileging of pathogenic health discourses (being neither diseased nor overweight) which have specific consequences for what pupils learn about health within PE (Quennerstedt, 2008b; Quennerstedt, 2010; Quennerstedt, Burrows and

Maivorsdotter, 2010). Understanding knowledge production within PE is further explored by Quennerstedt (2013b) by analysing habits-of-action within PE lessons. He demonstrates how knowledge is produced and reproduced in different ways, knowing by; doing correct movements, trying, imitating, cooperating, praising and cheering, creating, being changed into gym clothes, acting in a certain locality and resisting. This stands in direct contrast to many of the claims of knowledge generation made by curricular, policy and professional bodies (Bailey, et al., 2009).

How teachers and pupils participate within PE activities is also explored by Quennerstedt (2013a), by using YouTube as a source of worldwide visual data of PE practices. With some exceptions, this analysis confirms the often claimed link between PE and discourses of sport, physiology and fitness (Pope, 2011; Kirk, Macdonald and O'Sullivan, 2006). This analysis also reveals the variety of ways pupils negotiate these discourses, for example, by opting out, relating to it intensely or doing it for fun. Whilst confirming the dominance of particular practices and multi-activity curricula, what is significant about this study is how teachers' and pupils' actions shape this content but also how actions can be "multi-layered, intertwined and sometimes clash" (Quennerstedt (2013a; p.15). For example, while pupils may participate in activities which aim to re-actualise sports for 'real', they may actually be changed or adapted so they are played 'not really for real'. Such action allows pupils to take different directions of action such as 'having fun', 'being considerate' or 'being laid back' (p.9).

This body of transactional analysis draws our attention to the different layers of the educational culture within PE. In particular, how PE practices can

focus pupils' habits-of –action towards the bodying of particular things, such as pathogenic notions of health, the re-actualisation of sport experiences or negotiation of different directions of action. It suggests that the educational culture of PE is more complex than a site of the reproduction of sport discourses (cf. Kirk, 2010). As Crum (1993) implies through his conceptualisation of movement culture, this re-actualising of pupils' and teachers' own understandings and interpretations of sports, creates unique movement cultures particular to a school and PE lesson. From a national historical perspective, writers such as Kirk (2010) have identified the dominant form of movement culture within schools to take the form of PE-as-sport- techniques. Within this pedagogical milieu pupils are taught techniques and skills mainly in isolation from their movement contexts. Kirk (2010) argues deeply embedded within this practice is a teaching model of warming-up, skill practice, followed by a realisation of these skills within the sport context, such as a game. This reflects a lesson structure recommended to English and Welsh PE teachers 21 years ago (NCC, 1992).

The question remains how such pedagogical practices may constitute learning with primary PE movement cultures. Given the paucity of research analysing learning within primary PE, publications 5 and 6 of this thesis aim to investigate how movement cultures within primary PE are constituted. By taking action as the point of departure, these publications explore the scalar, temporal and action dimensions of the movement cultures. In doing so, they try to avoid the issues of situated perspectives on learning identified by Hodkinson, Biesta and James (2007). They also aim to provide a potential resource to support staff in reflecting upon teaching and learning within their particular movement cultures. This research utilises transactional analysis through what is made 'in-common'

and how ‘ends-in-view’ shape the educational content and pedagogy of the lessons. In doing so, it explores how actions-in-PE-settings shape and maintain the cultural dimension of learning with the movement cultures and how both pupils and teachers negotiate these movement cultures. This research is conducted in relation to the argument within the research field that PE experiences are characterised by the prevalence of learning sports skills and engaging in sport performance (cf. Pühse and Gerber, 2005; Rovegno, Chen and Todorovich, 2003; Tinning, 2012) through participation within multi-activity activity programmes (cf. Gibbons and Humbert, 2008).

Chapter summary

This chapter presents a rationale for a sociocultural position that takes action as a point of departure for investigating learning within PE settings. Such an approach turns ontological debate about learning and knowledge into epistemological questions about how actions constitute learning. I argue the challenges for investigating learning thus become epistemological rather than ontological. In publication 5 I explore how actions-in-PE-settings shape and maintain the cultural/institutional dimension of learning with primary PE movement cultures. The findings of this research are investigated further in publication 6, which investigates how both pupils and teachers negotiate these movement cultures.

Chapter 5

Methodology

Introduction

The aim of this chapter is to critically evaluate the research methodology utilised in the research studies conducted within this thesis. Publications 1, 2 and 4 serve a theoretical function to address my first research question and the second part of research question 2. These studies utilise a mixture of research papers and documentary documents to explore the reconceptualisation of PE as movement culture and approaches to teaching games within primary PE. Rather than raising a need to discuss the process of obtaining such data their discussion of PE practices does have an ethical dimension which will be addressed in this chapter. Publications 3, 5 and 6 serve an empirical function in order to address the first part of research question 2 and research question 3. In collecting data direct from PE practice there is a need to explore relations between the ontological and epistemological assumptions upon the methodological approaches I employed. In this chapter I aim to complete such a task in order to demonstrate the coherence of these empirical studies and their contribution to the body of work which this thesis represents. In doing so I also aim to show how these publications fit within the research field, demonstrating how they build upon the bodies of existing empirical work. Using this position, I then provide a rationale for their research design, ethical considerations, data collection and data analysis. Once these processes have been examined, I analyse the creditability of the data produced by this work, drawing particularly from Larsson's (1998) criteria for quality within qualitative research studies. This involves consideration of my role

within the research process using the conceptual position of reflexivity. In particular, I discuss the management and potential impact of my relationships with the participants upon the collection and analysis of the data.

Ontological and epistemological assumptions

The selection, approach and choice of tools to research phenomena are determined by the assumptions researchers make about the subject-matter of their studies (Silverman, 2013). For example, in chapter 1 I utilised Sfard's (1998) 'acquisition' and 'participation' metaphors to demonstrate how underlying assumptions about knowledge and learning affect what is explored when researching learning within PE. According to Creswell (2007) it is these ontological and epistemological assumptions that determine the 'what' and 'how' of research. Ontological assumptions are concerned with what constitutes reality and the position of human beings in the world. Epistemological assumptions are concerned with the judgements about knowledge and the relationship between the knower and the known. These assumptions determine the research paradigm adopted by researchers. By utilising the pragmatic philosophy of John Dewey as a theoretical solution to the issues I have encountered within PE, participants in this thesis become "interdependent rather than independent and embedded in a complex web of intimate and larger social relations" (Mauthner and Doucet, 2003; p.422). Such an approach supports the exploration of cultural understandings and meanings that constitute our lives. It is "a world of intersubjectivity, interaction, community and communication, in and out of which we come to be persons and to live as persons" (Crotty, 1998; p. 63).

Pragmatic philosophy originates from the work of Peirce (1931/1958) and Mead (1934/1964) and although it has different seams of thought, pragmatism has number of common characteristics in its approach to the world. Rescher (1995) suggests that pragmatists are concerned with practical application and the issue of that 'which works effectively' and this "provides a standard for the determination of truth in the case of statements, rightness in the case of actions, and value in the case of appraisals" (p.710). As with all ontological and epistemological positions this approach is not without criticism. According to Crotty (1998: p.78) Peirce came to 'disown' the pragmatism he founded because it became less critical of cultural ideas and practical outcomes. For example, whilst culture can enable and provide a wide set of meanings, it can also disable and therefore, needs to be treated with "a good measure of caution and suspicion" (Crotty, 1998; p. 71). Crotty (1998) argues that whilst pragmatism has suffered from this criticism from critical theorists, specifically the claim that it overlooks hegemonic power, such opposition is aimed at pragmatists working beyond the ideas of Dewey. According to Quay (2014) the pragmatic position adopted by Dewey has sufficient in common with critical theorists and phenomenology for meaningful dialogue to emerge. In chapter 2 and 3 I explored some of these overlaps with critical theory firstly in Dewey's critique of 'traditional' and 'progressive' educational ideology and secondly with phenomenology through the Firstness of experience.

Development of my ontological and epistemological understanding

In publication 3 the non-reflective and reflective modes of teachers' experience formed my ontological starting position and epistemological point of departure. I adopted this position to consider the meanings primary school teachers attribute to their planning and teaching of games activities. This

contrasts with using action as a point of departure adopted in publications 5 and 6. Later in the chapter I address in detail the reflexivity involved in the chronological development of my understanding of research and how this influenced my methodological practice. However, at this point I recognise that the use of semi-structured interviews in publication 3 represents a separation between the teacher's reflective experience of games and their actual pedagogical practice with their children. In this respect, I committed what Larsson (1998) calls "method fixation" (p.6), in that interviews led the research. However, the line of exploration covered in publication 3 represents an important development of my understanding of researching the phenomena of PE contexts. It followed a tradition of PCK research in which such separations are made and represents a logical direction of exploration of the aspects of movement culture within primary PE. In the case of publication 3 this was achieved by focussing on the 'reflective experience' of teachers i.e. the Second and Thirdness of their experience of games as subject-matter for PE.

My position shifted in publications 1, 2 and 4, when my reading of Crum's work on movement culture revealed a potential solution to the disconnections and dualisms I was identifying within PE practices. Using Dewey and Bentley's work to dissolve these dualisms and develop a position on learning and knowledge within movement culture, led to my use of the transactional approach to learning employed in publications 5 and 6. According to Quennerstedt (2013b) when using a transactional understanding of learning, "knowing (and in consequence questions of epistemology) can be conceived of as something we do, something practical" (p.311). From this perspective the ontological position, my ideas about world, become epistemological, because it is through interpretation of pupils' and

teachers' actions, that the meanings of this world emerge. As Crotty (1998) argues the analysis of meanings is an analysis of action within the ordinary situations and in which they happen; in other words actions-in-on-going-contexts. Experience and culture therefore become a mutual aspect of on-going action and "seeking the meaning of experience becomes an exploration of culture" (Crotty, 1998; p.74). In the case of publications 5 and 6 I employed this position to explore the movement cultures created through actions-in-PE-contexts within an urban primary school. This entailed a case study design which was similarly adopted in my exploration of primary school teachers' PCK in publication 3.

This study of PCK draws from my analysis in chapter 3 of the potential strengths of considering learning as experience presented by Dewey (1938/1997), specifically, the challenge to pedagogical practice presented by learning as occupation (Dewey, 1916/1985). Such an approach calls for the positioning of subject-matter within pupils' immediate experience rather than using it as a means to prepare pupils for a distant adult future. When considering such a position within movement culture, attention becomes focussed upon the immediate experiences of exploring the technomotor, sociomotor, cognitive reflective and affective problems presented, for example, when playing games. This presents particular challenges to teachers in their arrangement of doing and knowing or PCK (Dewey, 1928/1984). Publication 3, therefore, considers what an analysis primary school teacher's PCK might reveal about the positioning of games as subject-matter within pupil's PE experiences in primary school.

Previous research using PCK within the field of PE has focussed primarily upon how student teachers develop their subject expertise (Amade-Escot, 2000;

Graber, 2001, Griffin, Dodds and Rovegno, 1996; Rovegno, 2003). Deng (2007) and Deng and Luke (2007), however, argue that these uses of PCK focus predominantly upon the pedagogical transformation of subject-matter and overlook the complex discourses involved in the curricular transformation of subject-matter. This approach is also reflected within PCK research in other fields (Ball, Thames and Phelps, 2008; Baumert, et al., 2010; Lee, et al., 2007). Chen and Ennis (1995) explore how curricular decisions in PE are related to PCK, however, PCK research of practicing PE teachers remains focussed upon relations between teacher's knowledge and their choice and use of particular teaching approaches (Ward, Ayrazo and Lehwald, 2014). Publication 3, therefore, aimed to consider both the pedagogical and curricular transformation of games subject-matter. In particular, the teachers' mediation between games as sports and the creation of games as a curricular and pedagogical experience within their schools. This was conducted within the established tradition of using semi-structured interviews within PCK research (Amade-Escot, 2000). Such an approach allows the capture of individual and wider discourses involved in the pedagogical and curricula transformation of subject-matter (Park and Oliver, 2008).

My examination of PCK provides a teacher orientated perspective on the possible characteristics of movement cultures that exist within primary PE. In order to explore what actually constitutes these movement cultures within a school and how teachers and pupils negotiate these movement cultures, I conducted the studies presented by publications 5 and 6. A rationale for considering this cultural perspective on learning was examined first in chapter 1 and developed in chapter 4. Quennerstedt (2013a) suggests that research utilising a cognitivist position on learning has tended to limit knowledge within PE to areas of conceptual

development, cognition and information processing. In response, the research field has shifted its focus to a 'participation' metaphor in order to consider the contextual aspects of learning. In particular, the situated dimensions of learning such as the importance of meaningful membership of social groups (MacPhail, Kirk and Kinchin, 2004) or the interplay of physical, social and institutional dimensions of learning (MacPhail, Kirk and Griffin, 2008). Growing attention has be paid to embodied aspects of learning in PE by considering for example, implicit learning about gendered abilities (Røholt, 2002), what is deemed a healthy life style (Evans and Davies, 2004) or what type of human beings pupils should be or become (Evans and Davies; Wright and Burrows, 2007; Hunter, 2004). Publications 5 and 6 take a similar embodied position on learning, however, utilise Dewey's theory of action as a point of departure.

The approaches to learning taken by these studies represent a development of the main field of research on learning in PE. Within this landscape research has attempted to understand, for example, the relationships between teacher's interactions with their pupils and possible changes in the children's performances and understanding of particular PE subject-matter. To do this studies have utilised a mixture of observations, interviews, reflective diaries, etc. to consider ontologically orientated questions such as what may be learnt using a particular pedagogical approach (MacPhail, Kirk and Griffin, 2008). The studies represented in publications 5 and 6 aim to build upon these situated perspectives of learning by considering learning as a mutual part of cultural action. They draw upon Dewey and Bentley's (1949/1991) transactional position on learning in which action represents an ongoing mutual part of the environment. From this perspective the mind, rather than being a separate ontologically defined location of

learning and knowledge, becomes an indissociable part of ongoing experience (Johnson, 2010). Rather than using the individual and the environment as separate units of analysis, such research (Quennerstedt, 2013a; 2013b; Quennerstedt, Almqvist and Öhman, 2011) approaches learning and knowledge as being mutually defined and interdependent of action. This shifts the ontological debate about learning into an epistemological question i.e. how do experience and the situation constitute learning through a dynamic, mutually constituted ongoing process?

In summarising the theoretical approach, relationships between and purposes of the publications, I now turn to the research processes and decision making involved in conducting these studies. I start with providing my analysis of the ethical implications of conducting both the theoretical publications; 1, 2 and 4, and the empirical publications; 3, 5 and 6. My decision making behind the research design for the empirical publications is then discussed, followed by the data collection and analysis, first for publication 3, then followed by publications 5 and 6. Having addressed these processes, I then conduct a critical analysis of the data creditability for these publications.

Ethical considerations

All studies of educational practice require careful consideration of the potential impact of the planned research upon those involved (Wellington, 2015). All research conducted by staff and students at the University of Wolverhampton are required to demonstrate that such considerations have been made. An example of a successful University of Wolverhampton application form for ethical approval for one of the studies in this thesis can be found in appendix 8. In this section of

my methodology I aim to elaborate the specific ethical considerations made prior and during the completion of all the publications which constitute this thesis.

Ethical considerations for conceptual publications 1, 2 and 4

Stolz and Pill (2014a) illustrate an example within the teaching of games of potential conflict between the practice of PE and theoretical fields of understanding of PE. They suggest that PE teachers are primarily concerned with the everyday pragmatic concerns of teaching classes of pupils amid differing environmental conditions. In contrast, those in the academic field use theory as the starting point to consider pedagogical practice. Stolz and Pill (2014a) argue this can result in tensions between what is considered 'good' teaching. Their example of different points of departure highlights potential ethical responsibilities. These are created when writing theoretically about a school subject that has been developed through practice. As Tinning (2015; p.7) argues pedagogical practices in PE are not "a set of techniques that can be successfully or less successfully implemented by a teacher. Rather, they are more like a set of beliefs about the way certain types of learning can best be achieved". Therefore, all PE practices are "implicit statements about ideology, valued forms of knowledge and practical epistemology" (Tinning, 2015; p.7). According Boisvert (1998) openness to different ideas, or pluralism formed a key part of Dewey's democratic theorising of education. This was located within the general problematic nature of trying to lead a meaningful life.

Alexander (1995) explains that Dewey's theory of education is rooted in his ideas about democratic culture, which represents one way of inhabiting and responding to the conditions of life. From this ecological standpoint, mature

ecosystems such as that represented by democracy “not only allow for diversity, but require it” (Alexander, 1995; p.243).Thus, different ideas and practices within PE are important as “we cannot dismiss the importance of tradition in the name of pluralism; nor can be dismiss pluralism for a monolithic tradition” (Alexander, 1995; p.243). According to Westbrook (2010) democracy for Dewey requires a tradition of pluralism, in which the arts and humanities feature as a means to support the capacity of humanity to imagine and feel as well as develop conceptual understanding. As Rhodes (2009) argues knowledge should not exist as a means to create a finite position on reality but support openness to difference. Therefore, my discussions about the potential benefits of reconceptualising PE as movement culture were conducted with this view in mind. Normativity, in relation to what should or should not be practiced in PE was not a desired outcome. Rather, movement culture was approached as a potential solution to particular identified issues. In this way I did not aimed to use theory to criticise the practices of a school subject historically shaped through everyday practical necessities. It was my intention that theory became a way to explore different possibilities about what the subject could be and could achieve.

Ethical considerations for empirical publication 3

Twelve teachers fulfilling the role of curriculum lead for PE within primary schools known by the researcher were recruited on a voluntary basis. These schools were located within the West Midlands and formed part of an SSP created through the PESSCL strategy. I knew the teachers through my previous role as PDM of this SSP. As the curriculum leads for PE, these teachers had a significant role in the planning, organising and monitoring of the delivery of PE within their schools. These teachers played a key role in utilising SSP resources to enrich PE

and Sport provision and take a lead in developing ‘high quality’ PE throughout their schools (Flintoff, 2008). The ethical considerations of this research were based on the British Educational Research Association Ethical Guidelines for Education Research (BERAEGfER) (2011). These suggest that consent, privacy and disclosure formed the main ethical considerations for the study of PCK. I will now demonstrate how these considerations were made when conducting the research for publication 3.

All participants consented to the study through their completion of a consent form. This provided an explanation of the nature of the research and informed the teachers that they were free to withdraw from the interview at any time without giving any reason. Reaffirmation of this position was also made verbally before and after the interviews. The aims, methods and intended uses of the possible data obtained were also communicated through both the consent form and verbally prior to the interviews. All the participants were informed about their right to privacy; this was provided by keeping the data strictly confidential and saved on a password secured University of Wolverhampton laptop. Permission to use a Dictaphone was requested by the researcher and confidentiality was provided through the use of pseudonyms and by not using the names of their schools. The teachers were informed that the intention was to publish the research as academic literature and that they may review the transcription of their interview should they wish. According to the Data Protection Act (DPA) (1998), data which cannot be linked to an identifiable living individual is not personal data and thus in principle falls outside the Data Protection regime. However, until data is anonymized, it is considered ‘personal data’. Therefore, the teachers were given anonymity through the use of pseudonyms and the names of schools and SSP were all withheld.

Only the regional geographic location was provided. According to Charlesworth (2014) 'anonymization' can be a complex ethical issue, as data can only be considered anonymized when an individual can no longer be identified. Even if data has been coded with names and other key identifiers removed, if it is linked to a separate file held by the researcher, individual research subjects may be identified. Their identity may also be revealed through signed consent forms. Charlesworth (2014) therefore argues the data can only argued to be 'pseudonymised' and is subject to the DPA 1998. In order to maintain the teacher's anonymity in this study, transcripts were anonymised and the audio files deleted.

Ethical considerations for empirical publications 5 and 6

Children live in a world where audio-visual representations of themselves and others form part of their daily lives. This is created through the many readily available technologies that make the recording and viewing of images and video, an easy and instantaneous occurrence. However, according to Robson (2011) using such technology to document and analyse peoples' actions within a formal and compulsory context, such as PE lessons, presents significant ethical issues (Quennerstedt et al., 2011). These required careful consideration before ethical approval for the research was granted by the University of Wolverhampton. Harcourt and Quennerstedt (2014) suggest a balance between adhering to formal regulations to manage 'risks' in such research and following informal guidelines, provides space for wider reflections on the moral implications of childhood research. In this respect I aimed to manage fulfilling the necessary policy requirements for the research to pass through my University ethics committee, but also considering how I acted throughout my time in the school to respect each

child as a “knowledgeable agent in the present with full human dignity” (Harcourt and Quennerstedt, 2014; p.1).

As with publication 3 at all stages the study adhered to the BERAEGfER (2011) this identified that the main areas of concern were:

- Seeking consent from key stake holders; the headteacher, class teacher, parents and pupils.
- Safeguarding child protection through the handling and security of the visual data.

In comparison to interviews or questionnaires, filming has the potential to substantially increase anxiety amongst pupils and can present a greater interference in people’s privacy (Potter, 2002). In view of this concern the research was designed so that I and the video camera became an accepted part of the pupils’ PE lessons. This was achieved by visiting the school one day a week over a two month period in the lead-up to data collection. Following the advice of Robson (2011) I adopted a ‘least-adult role’ in both numeracy and literacy lessons as well as their PE lessons. I acted as a support assistant, working with different groups of pupils so I became an excepted part of their Wednesdays at school. I also gradually filtered into their PE lesson a number of video cameras and iPads to support the children’s informed consent for the study, by providing opportunities to view and reflect upon seeing themselves on video. According to Harcourt and Quennerstedt (2014) by encouraging the children to experiment with this equipment and to playback their recordings of each other’s work, I was able to foster their role as active participants within the research process. To abide with the DPA (1998) and child protection issues, all film footage after these sessions was permanently deleted from the hardware before leaving the school premises. This strategy additionally had the function of aiming to

lessen the impact of the video camera and my presence within the pupils' school lives.

When seeking consent from all stakeholders, particularly the pupils, ecological validity was integral to the study design in order to significantly reduce immediate risks of discomfort and harm to all participants (Quennerstedt, Almqvist and Öhman, 2011). Here the aim was to be particularly sensitive to power relations and their impact on decisions to agree to be involved. Within such dynamics pupils can often only "signal their views by opting out of the project, rather than by positively opting in" (Robson, 2011; p.183). I made a concerted effort to minimise these issues by providing clear and concise information, opportunities for pupils and parents to discuss the study and an emphasis on the aim that it would present no change in the on-going PE lessons taught. Agreement to take part in the research project was sought from all stake holders through the signing of consent forms. These identified, the aims, methods and intended uses of the possible data and their right to withdraw from the research at any stage. All the participants were also informed about data security. Only two children declined to be involved in the study and great attention was paid to ensuring they were not deliberately filmed or featured in any background of the footage. Whilst posing an additional challenge to the filming process this was necessary to comply with the children's wishes. Instances where these children unintentionally appeared in the films were not used in the study.

Once informed consent was provided the video cameras were gradually reduced to one handheld and one static camera and a number of lessons were filmed but the footage deleted, until the researcher and camera became less

obvious and an accepted part of the everyday, on-going practices within the PE lessons (Robson 2011). To ensure compliance with the DPA (1998) all digital images were treated as 'personal data' and were transferred on to a University supplied password secured laptop computer. It was then permanently deleted from the camera at the end of each day of filming. Analysis of the data was conducted in a private room to ensure no other adults were able to view the footage. The DPA (1998) controls how organisations use 'personal data' from which individuals can be identified. In this study participant anonymity could not be guaranteed in the process of data analysis, only confidentiality. This is because replaying and analysing the footage necessitated the identification of individual adults and pupils (Charlesworth, 2014). To comply with the DPA (1998) anonymization techniques were employed to ensure as far as possible individuals could not be identified from the analysis and any data cited within the publication. Only the school's geographical region was provided and pseudonyms were used in transcriptions of the visual data. As with other transactional research within PE, rather than singling out particular individuals, the analysis also focussed on actions within events (Quennerstedt, 2013a). Having addressed the ethical considerations for publications 3, 5 and 6, I now turn to a discussion of the research design for these studies. This is followed by a rationale for the data collection and data analysis processes first for publication 3 and then publications 5 and 6. I complete this chapter with a discussion of the data creditability of these publications.

Research design for publications 3, 5 and 6

According to Gerring (2004) defining the meaning of what constitutes a case study has resulted in unhelpful confusion about what they are and how they contribute to what is 'known' about social phenomena. Flyvbjerg (2011) suggests

the decisive issue in relation to a case study is the unit of analysis and the setting of its boundaries. All three empirical publications consisted of 'collective case studies' in which a number of cases were studied. In publication 3 the unit of analysis was the PCK of primary school teachers and the boundaries of the cases were defined by the curriculum leaders for PE from 12 primary schools within a local geographical area. In publications 5 and 6 the unit of analysis was action, which was drawn from video footage of 7, Year 5 and 6 PE lessons. These provided the cases for the movement cultures within an urban primary school.

Mason (1996) warns that the limitation of using a case study design is that the knowledge generated becomes 'idiosyncratic' to particular or limited parameters of the study. In order to have 'wider resonance' within the paucity of research on teaching and learning within primary PE, the aim behind the purposive sampling of the cases was theoretically defined (Mason, 1996; p.6). The issue was not whether the cases in these studies were 'typical'. Rather, how the meanings extrapolated from the actions observed or the conversations with the teachers had relations with research within the field of PE (Gobo, 2008).

Data collection for publication 3

In keeping with other studies on PCK (Schempp, 1993; Rovegno, 1994; Schempp, et al.1998) in-depth qualitative interviews were seen as legitimate and meaningful ways to collect data about the teachers' pedagogical and curricula transformation of games activities. These were explored through a semi-structured format developed from the literature review. Five principle areas of discussion were created from this review; personal educational and wider experiences; training and CPD; aims and purposes involved in curriculum

planning; input from outside agencies; aims, content and styles of delivery. I considered that this fame work allowed interview responses to be compared and supported enough flexibility for meanings about games teaching and curriculum planning to be explored (Miller and Glassner, 2011). In order to support uninterrupted and distraction free discussions, the teachers were interviewed in a quiet area and at their convenience (Brenner, 2006). Pilot interviews were carried out with three teachers, not included in the main sample. These indicated a need to modify some of the questions to ensure greater clarity of phrasing and to permit greater exploration of their games planning and teaching.

Data analysis – publication 3

According to Rapley (2011) data analysis is determined by a researcher's paradigm and the purpose of the research. In this study a general inductive approach (Thomas, 2006) or thematic analysis (Braun and Clarke, 2006) was conducted to make sense of the intersubjectivities created in the interviews. My analysis focussed upon identifying relations between the teachers' curricular and pedagogical transformation of games. In particular, the statutory provision of games through learning strands defined by the relevant iteration of the NCPPE (DFEE/QCA, 1999). These relations were then compared to Veal and MaKinster's (1999) stratified model of PCK. This involved analysing the transcripts, for example, by recognising repetitions, similarities, differences and identifying possible categories (cf. Bernard and Ryan, 2010). A system of 'open coding' (cf. Spencer, et al., 2014) was employed to identify possible patterns in the data. These were reviewed and collated into initial categories of similarities. Through continual checking and comparing, these categories were formed into initial themes. Obvious 'fits' were considered alongside data that may not fit these initial

themes. This process involved mapping and revising these initial themes and in some cases changing the 'rule' of my initial labelling (cf. Thomas, 2006). In doing so more refined themes were produced in which relations in the data, within and between each theme, were clarified.

Data collection for publications 5 and 6

In order to capture and analyse actions within the everyday context of primary school PE lessons an observational study was conducted (Öhman and Quennerstedt, 2012). Field notes were considered too restrictive to capture the complex interactions within such movement contexts. It was only through repeated viewing of video footage that I considered I would be able to highlight and analyse events as they unfolded (Öhman and Quennerstedt, 2012). Gaining access to primary schools for research purposes is problematic (cf. Quennerstedt and Larsson, 2015), therefore, I used personal contacts to obtain an introduction to the headteacher of a state maintained primary school situated in a large town in the West Midlands. The school was a larger than average, serving just over 500 pupils aged 3-11. It had a significantly higher than average proportion of pupils with statements of Special Educational Needs and pupils registered as School Action and School Action Plus. OfSTED reported in 2012 that pupils 'make good progress from what are often very low starting points'. An opportunistic sample (Bryman, 2008) of Year 5 and 6 PE lessons were filmed using a combination of static and handheld video cameras, depending on the location of the lesson and the weather conditions.

Data analysis – publications 5 and 6

Just over 7 hours of film was recorded for the studies during my time based in the primary school. As with all research tools, video-recordings can only produce selective data and a partial view of the PE lessons and are unable to capture the plethora of interactions. Therefore, a complete and comprehensive sociocultural account of a movement culture is very difficult if not impossible to achieve. Similarly, actions can only be interpreted and analysed in relation to the experiences of the researcher, therefore, personal distance from the data was a methodological impossibility (Öhman and Quennerstedt, 2012). Analysis of the video recordings required transcripts to be created which become records of the events as seen through the researchers' eyes. As such they became imbued with description and interpretation in order to convey the embodied events observed. The focus of this process of analysis was 'action' in which activities of an individual cannot be considered in isolation but a mutual part of organism-in-environment-as-whole (Dewey and Bentley, 1949/1991). In publications 5 and 6 teachers' and pupils' actions-in-on-going-events within the observed PE lessons were analysed to consider the different dimensions of the movement cultures. Theory was not employed to deduce the participants' intentions or potential changes in their cognitive structures. It was the functions of actions, constituted in the observed situation, which lead the analysis.

Whilst the physical scale of the studies was limited to collective case studies of Year 5 and 6 PE lessons in one school, by focussing on action as a point of departure the analysis was inclusive of wider cultural influences. This scalar aspect to the studies was achieved because the movement cultures would be constituted by other 'knowings' from other experiences outside of the lessons

forming a mutual part of the participants' actions. These actions were considered as on-going not as separate chronological divisions between lessons. Whilst different cultures may or may not emerge in relation to lesson purposes, physical locations, teachers, activities or classes, the participants' actions were considered as mutual temporal entities. In other words, all events within the analysis were considered extensions of previous events, directed towards future actions. In this way by taking action as a point of departure a position is created which provides both a scalar and temporal quality to the analysis.

Rogoff (1995) argues these actions have individual, social and cultural dimensions which are an integral and a mutual aspect of learning. In view of this indissoluble relationship, publication 5 focussed upon bringing the cultural aspect to the foreground by analysing it in relation to the individual and social dimensions of the movement culture. Particular attention was made to the functions of actions specifically in relation to how they shaped and maintained the movement culture. To achieve this position, actions were analysed when actions-in-on-going-events made something 'in-common' (Biesta and Burbules, 2003). For example, what was of interest, was how pupils acted-in-context without hesitation. These actions provided possible evidence of what was 'given' and 'obvious', without question or challenge. Analysis of the patterns of these actions within or across lessons enabled interpretation to be reached as to what constituted the movement cultures. Also of interest were actions which took a different direction to the main flow of actions, including events when these actions were redirected by the teacher to fit back within the movement culture. In these cases what constitutes the movement culture becomes more evident when actions can be identified which resist what is 'in-common' and obvious.

The focus of the analysis of the visual data changed in publication 6 where the individual dimension was brought to the fore in relation to the cultural and social dimensions. In order to achieve this position 'ends-in-view' were used as the focus of the analysis (Garrison, 2001; Quennerstedt, 2013a, 2013b). In this way actions that allowed participants to act intelligibly in relation to both the content (what) and the pedagogy (how) of the event were analysed. To conduct such analysis and the one adopted in publication 5, the video footage was subjected to a back and forth process of interpretation. Lessons were initially studied in their entirety in order to best understand the patterns of actions in order to identify consistency and changes in actions. During this stage, initial field notes were developed which registered particular events that appeared within each lesson, such as, those where pupils acted against the main flow of actions. Within this process, preliminary labels were used to identify specific interactions and content, of the actions-in-on-going-events. These labels then directed further in-depth analysis using detailed transcripts of embodied and spoken actions, including the locality and involvement of artefacts. Each group of event transcripts were then analysed individually and collectively in relation to the functions of these actions within the event. This process was first completed separately by the researchers, followed by analysis of both their sets of findings. Differences in the latter were exposed to further analysis and re-categorisation of the themes occurred and examples of these corroborated findings were selected to illustrate the emergent themes. The aim here was to develop a discourse with the reader about the observed reality and the interpretation, in order to demonstrate the potential value of using action as a departure point to understand what constitutes movement cultures in PE settings. Now that I have addressed the research

processes involved in the empirical publication 3, 5 and 6, I now conduct a critical analysis of the data creditability of these studies.

Data credibility

According to Crotty (1998) in pragmatic philosophy one truth does not exist, rather multiple truths or intersubjectivities represent our social world. Peräkylä (2011) argues that such research cannot claim to reproduce reality, but only aim to represent it in a credible empirical form. Hammersley (1992) suggests that qualitative research should therefore consider 'credibility' as a means to assess the authenticity of such research findings. According to Seale (1999) this credibility is representative of two strands of work within empirical studies. One strand is termed reliability, which aims to ensure the accuracy and inclusiveness of recordings of the social world. The other is called validity which is concerned with actions that related to the truthfulness of the analysis of these recordings. Discussions concerning the credibility or quality of the research processes within qualitative research can be hamstrung by particular 'mind sets' about how such research represents value (Larsson, 1998). Such a context has developed because the paradigm of qualitative analysis has evolved from a dominant paradigm of quantitative analysis. With this language and concepts such as reliability and validity often do not necessarily find a common ground or meaning. Tension is created by differing ontological and epistemological positions adopted within and between qualitative and quantitative research paradigms (Lincoln, Lynham and Gubba, 2011). Considering what constitutes quality is imbued with power relations and micro-politics as to what represents scientific study, its 'usefulness' and to what extent it can be regarded as being true (Silverman, 2011). Larsson (1998) observes that an unusual mismatch exists between the dearth of

literature within qualitative research on what constitutes ‘quality’ and the key role this dimension plays within notions of qualitative scholarship. Rather than attempting to create a constrictive blue print, Larsson (1998) presents a set of criteria which aim to contribute to the on-going debate about what constitutes quality within and between these research communities. Such criteria are not unique, for example, Tracey (2010) provides a similar set. However, for the purpose of this thesis I have chosen to use Larsson’s as they provide a better match for the research studies conducted. Larsson’s (1998) criteria fall within three main subheadings:

- Qualities in the presentation as a whole; *awareness of perspectives, internal consistency and ethical values*
- Qualities in the results; *richness of meanings, structure, theoretical contributions*
- Criterial of validity; *discourse criterion, heuristic value, empirical anchorage, consistence and pragmatic criterion*.

(Larsson, 1998; p. 3)

Larsson (1998) suggests that these criteria are not always relevant to all research, are interchangeable or may be contradictory and depend on the nature of the study. For example, pragmatic value, the practical significance of a set of results, can be considered akin to empirical anchorage, the relations between reality and interpretation, as it is these relations which can identify the significance of the findings. Ethical value, however, may present significant challenges to validity because protecting participants may present barriers as to what can be interpreted and presented. Despite such complexity in this section of the chapter I draw from these criteria in order to identify the overall strengths and potential issues within the differing empirical studies I conducted. I use the criteria where appropriate to demonstrate how quality and creditability have been a consistent consideration.

Reliability and validity of the studies conducted within this thesis are inextricably linked to my role within the research. As Larsson (1998) argues, the pre-understanding of phenomena, or our ontological position, determines the framework of the approach to the interpretation of data. I therefore, consider Larsson's (1998) 'awareness of perspectives' or 'reflexivity' when discussing the relations between my personal perspectives, role within the research process and the interpretations produced. In doing so I aim to reveal to the reader personal experiences that have influenced my pre-understanding of what I aimed to interpret. Understanding the researchers' position, beliefs and values is important because it is the researcher who becomes the embodied situated, subjective tool used in collecting data and analysing the data (Silverman, 2013). According to Malterud (2001) reflection upon the process of knowledge construction within research, particularly the relations between this knowledge and the researcher, is an important feature of credible research. This is because the latter "affect what they choose to investigate, the angle of investigation, the methods judged most adequate for this purpose, the findings considered most appropriate, and the framing and communication of conclusions" (Malterud, 2001, p. 483). Therefore, Larsson (1998) argues a clear declaration of a researcher's assumptions in relation to the data allows the limits of interpretation to become more visible. This permits the reader to reach a more precise understanding of the interpretation.

In order to support such a position I first consider issues of accuracy, inclusiveness and truthfulness in relation to the epistemological dimensions of the research studies. I then use this discussion to consider reflexivity. According to Peräkylä (2011) issues of reliability and validity in interview research, such as that

conducted in publication 3, focus on the extent to which the views and opinions expressed by the teachers, accurately reflect their actions outside of the interview or whether they are produced by the interview itself. In observational research such as that conducted by publications 5 and 6, questions concerning reliability and validity centre on the reconstructive nature of the notes made from the video footage. In particular, the extent to selection and the interpretation of actions represents the researcher's own cultural perspectives and beliefs.

Data creditability produced by publication 3

In publication 3 I identified two potential issues that may affect the credibility of the data:

- Respondents withholding information or giving information they judged I wanted to hear.
- The impact of my assumptions, preconceptions and biases in the choice of the research method and my interpretation of the data.

In contrast to Quennerstedt and Larsson (2015) who observe the ease of making contact and conducting research with teachers and pupils in Sweden, in the UK gaining such access can be problematic. Indeed, I was required to draw upon my previous contacts with primary schools in order to develop a sample for the study. In relation to the first threat I had to be mindful of my relationship with these teachers which was initially defined through my management of the SSP. Over a year had passed when the interviews were conducted. In this time a new PDM had been in post and new work plans and working relationships had been formed. I believe this chronological gap helped to elevate any power dynamics from my previous relationship with the teachers which may have had an impact on the interview data. However, I was still aware that I was a subject specialist asking questions about PE in a generalist environment. In order to overcome this

potential power relation I believe I was able to trade on my positive relationship with these teachers based upon a trusting and supportive position I had taken as a PDM. This aspect of my management of the SSP was iterated by many headteachers and PE coordinators when I left this post in 2010. It formed an additional reason for choosing the SSP as a basis for the study sample. Without their openness and trust I would have found it difficult to gain access. I also structured the interview framework to build-up the flow of discussion from the teachers' own personal experiences and training to their work within the school. Additionally, I ensured that I used probing open-ended questions and encouraged the teachers to use examples to help them articulate their pedagogical and curricular work in games.

My analysis of the data obtained from these interviews could have been supported with observation data of the teachers working with their pupils in games activities. At the time I wanted to overcome the limitations of uses of PCK identified by Deng (2007) by understanding both the pedagogical and curricular transformation of games. However, I had not yet located this epistemological approach within my developing awareness of ontological assumptions. In this respect I chose not to observe PE lessons for two key reasons. The first was my worry that the teachers may withdraw from the research due to concerns of possible surveillance of their teaching. I decided that I was able to remove this fear using interviews and probing as much as possible into their reflective mode of experience. The second was the logistical impossibility of coordinating school visits whilst fulfilling a 5 day a week workload in my lecturing role.

Despite these efforts to secure credible data, I also had to be aware of the second threat to the credibility of my research; the impact of my own assumptions, preconceptions and biases in the choice of research method and my interpretation of the data. Miller and Glassner (2011) argue it is possible to find realities within interviews that reveal common explanations which are an aspect of this reality. However, they argue it is also common that there will be other accounts that are contradictory. As Richardson (2000; p.934) suggests 'what we see depends upon our angle of repose'. Therefore, instead of believing I had captured the teachers' pedagogical and curricula transformation of games as a lived experience, I could only say something about this through my use of PCK as a theoretical lens. According to Peräkylä (2011; p.369) the treatment of cases that fall outside of the 'regular patterns of interaction' form a key element to research credibility. During analytical induction not all responses necessarily 'fit' the patterns emerging in the data. These are often termed 'deviant' cases, which if ignored can pose a real objection to patterns in the data upon which the conclusions of the research draw (Thomas, 2006). In publication 3 I was concerned with the pattern of relations between the constructs of PCK i.e. the relationships between subject-matter, pupils and teaching. It is the relational basis of theses aspects of pedagogy, which provided the flexibility to consider the teacher's pedagogical or curricula transformation which fell outside of the main trends. Thus any teachers who fell outside would show similar "considerations and normative orientations that produced the regular cases" (Peräkylä, 2011; p.370). This is because PCK establishes that a pattern of relations exist between its constructs. However, revealing the nuances between these relations, providing sufficient structure which did not blur the richness of the data and encapsulating the wholeness of the data, provided key challenges.

Larsson (1998) argues this interplay between richness of meanings and structure of the analysis are a key dimension in judging the quality of research results. A tension is created between maintaining the richness of meanings within the interpretation, whilst also aiming to reduce the complexity of the nuances revealed. These function to allow the analysis to move between parts and the whole. To reduce this tension Larsson (1998) argues the structure should seek to find a fundamental axis around which much of the data rests. In publication 3 I struggled with this tension where my efforts to capture nuances led to an over structuring through 6 themes. Larsson (1998; p.10) suggests that tension "dissolves into the exactness of the interpretation" and in this respect there was potential room within the analysis to simplify the structure. However, the interpretation aimed to overcome the mistake of transplanting PCK onto the data and thus compromise its uniqueness.

The quality of this analysis forms a key part of the validity of the results. Larsson (1998) thus presents 3 criteria in an attempt to consider validity of what is claimed by qualitative research; 'discourse criterion', 'heuristic value' and 'empirical anchorage'. By drawing from previous research within the field of primary PE and PCK, I attempted to create a dialogue or discourse between my analysis and what was already know about games teaching. In order to demonstrate quality in this respect, I was required to develop a relationship between the structure of my analysis and a paucity of research within Primary PE examining PCK, particularly in relation to games activities. In doing so I needed to avoid presenting an interpretation that has already been established and thus demonstrate 'heuristic value'. During the analysis stage I entered into a dialectic

relationship between the theoretical framework of PCK and the data. This led to my discovery of Veal and MaKinster's (1999) taxonomy, as a means to make sense of the patterns in the teachers' curricular and pedagogical work in games activities. Defining these patterns required me to draw from both the data and research field to provide 'empirical anchorage' to qualify my interpretation. It could be argued that the research field had already identified the curricular and pedagogical transformation of PE activities as problematic. Thus my focus on games as an activity area and my use of this taxonomy of PCK lowered the heuristic value of my analysis, in that it risked becoming predictable and self-fulfilling. However, there is a paucity of empirical work within primary PE and discussion in understanding how phenomena create this area of movement culture. Without the understanding developed through this study I would not have been in an empirically defined position to support my functional analysis of games activities in publication 4.

Reflexivity – publication 3

As in my theoretical publications 1, 2 and 4, I had to decline an initial urge to take a superior position upon how these non-specialist teachers transformed games into PE experiences for their pupils. This is a disposition created through my work as a teacher and now university lecturer, in which I have to demonstrate daily my knowledge and understanding of PE. Here Larsson's (1998) pragmatic value criterion and epistemological anchorage had to work together. In doing so they would aim to ensure that my contribution to the PE research community was a mutual aspect of the quality of my analysis. The purpose was not to criticise the teachers for using a sport focused position on games, but to understand the phenomena which lead to this position. My previous role as PDM was invaluable

here as I was able to connect with the teacher's worlds as teachers and subject leaders. In particular, their work as delivers of many school subjects and their exposure to a plethora of sport, education and health discourses. The process of data analysis also fuelled personal reflections upon my curricular and pedagogical transformation of subject matter which also contributed to the production of publication 4.

The order of my presentation of the publications in chapter 1 is based upon the narrative I have constructed for this thesis. I have also outlined the non-linear chronology of the order of these studies. Publication 3 was actually the first research study in this thesis. It was also the first empirical research I conducted since my MSc. in 1992. I had conducted interviews with, for example, pupils, parents and prospective employees, in my capacity as a teacher. However, analysing and interpreting dialogue was less about qualitative research and more about gathering data to make more informed professional decisions. At the time of the research my ontological and epistemological understandings were emerging and I considered interviews and discussions with teachers the most pragmatic method to understand their curricular and pedagogical transformation of games activities. I wanted to gather data from a number of cases yet I had limited time to do so outside of my lecturing duties. It was interviewing which allowed qualitative data to be gathered at times convenient to the school staff involved and that fitted in with my lecturing timetable. The interpretation of the data was based upon my prior work with primary teachers and undergraduate students in which codified sports formed their main understanding of games activities. I expected the teachers within the study to have a similar sport specific bias in their approach to games. What I wanted to achieve was a position of understanding of the role of

personal experiences, training, professional development, external providers, etc. in shaping how teachers understood games in this way. More importantly, I wanted understand how these contextual dynamics related to their teaching of games. To achieve this I was drawn to PCK as a theory of teaching in order to support my analysis of the curricula and pedagogical construction of learning experiences by these teachers.

Larsson (1998) argues that there is a 'to and fro' dynamic between questions, methods and analysis. Not all methods are neutral as they are connected with particular ontological and epistemological perspectives. I was drawn to interviewing as a means to collect data because it played to my personal strengths and lecturing commitments. This privileging of method and question before my choice of theoretical framework was not necessary problematic. However, it does represent an epistemological separation between the teacher's reflective experience of games and their actual pedagogical practice with their children. Whilst these separations are common within PCK research, they represent a logical direction of exploration of the constructs of movement culture within primary PE. This was achieved by focussing upon the 'reflective experience' of teachers of games as subject-matter for PE. However, such an approach to research does risk what Hodkinson, Biesta and James (2007) argue is the tendency to "separate out the agency of individual learners from the social structures that they are seen to inhabit, focussing on one or the other, not both."(p. 417). Therefore, by using the individual teachers as the starting point and by focussing on the structure of the relations within their PCK, there was a risk that I make the study self-fulfilling. In other words, it was the individual and their

knowledge of games which determined their pedagogical and curricular transformation within schools.

This issue was raised in chapter 3 where I drew from Deng (2007) who argued that many uses of PCK by researchers overlook the plethora of discourses and power relations that are at play. I aimed to overcome this by looking at the relations between the commonality of patterns of relations within the teachers PCK with their personal experiences, teacher training and exposure to CPD and other policy discourses. This does not mean that I was able to avoid the privileging of the individual and PCK in this research. Further questions and reading about what might constitute learning within games activities, enabled me to consider the prevailing mind-body dualisms inherent within my own conceptions of knowing in relation to games, teacher's knowledge and learning. This provided the impetus to develop a position which would avoid the epistemological separations that publication 3 made.

Data creditability of publications 5 and 6

Publications 5 and 6 aimed to avoid such separations. In these publications, rather that treating learning as a theoretical question, I aimed to make the question empirical, where the individual, social and cultural dimensions were investigated 'in action' as 'simultaneous and mutual aspects' of the observed situations (Quennerstedt, Öhman and Öhman, 2011; p.168). I have identified the methodological implications of such an approach in an earlier section of this methodology. Nevertheless, using this position still raises three threats to the credibility of the data:

- My impact on the research setting – the halo or Hawthorne effect – which changes the behaviour of the people involved in the research setting.
- Anecdotalism – the findings are not representative of a complete picture of the research setting and that exemplary instances and reporting of the data does not necessarily preserve the materials upon which the analysis was based.
- The impact of my assumptions, preconceptions and biases in the interpretation of the data.

The research was designed from both an ethical and credibility position with the first threat in mind. The steps taken to manage this threat are detailed above in the research design section for these publications. In short, I filtered both myself and video cameras into and then to the periphery of the research setting with the aim to minimise any impact. Of more significance, however, is the relationship between this threat and the risk of anecdotalism and bias. With the use of a roving handheld camera and where possible an additional stationary camera, I could not guarantee that I would not affect the behaviour of the teacher and pupils, I could only lessen this through the longevity of my presence and the camera within the lessons. I also could not claim to capture the entirety of the lessons in covering all actions all of the time. These are very difficult methodological issues to overcome and in relation to the context and resources available, the solutions reached were pragmatic and based upon similar sociocultural studies (Quennerstedt, 2013a; 2013b; Quennerstedt, Almqvist and Öhman, 2011). In order to overcome anecdotalism I had to ensure that I avoided potential fragmentation of the data through the process of analysis which would make it impossible to entertain alternative interpretations of the same materials (Bryman, 2008). I also had to ensure that when including particular examples of data that these represented the 'typicality' of instances upon which the findings were based (Silverman, 2013; p.286). To address these issues I employed the 'refutability principle' (Silverman,

2013) and ‘thick descriptions’ (Ponterotto, 2006) which also helped to address my third threat of researcher bias.

According to Silverman (2013) the refutability principle demands that the researcher should ‘refute’ the assumed relations between the phenomena investigated. Only then can the existence of a certain relation be argued to exist. This involves not jumping to conclusions simply because the evidence appears to lead to a particular relationship. In order to develop a robust approach to this approach I also asked my co-research to independently analyse the data. Such a protocol allowed research notes and data categorisation to be compared and assumed relations subjected to further refutable scrutiny. Krefting (1991) suggests that such peer examination can support deeper reflexive analysis and increase creditability of the research. This became a to and fro process and from which the themes began to appear and to be confirmed. As the lead researcher I also began to develop ‘thick descriptions’ of examples of the data which illustrated these interpretations. According to Ponterotto (2006) this way of presenting data merges observations with the researcher’s interpretation, which in turn creates a rich meaning for both the researcher and the readers of the research. The reader is therefore, “able to digest the essential elements of the findings, and is able to discern whether she or he would have come to the same interpretive conclusions as the report’s author” (Ponterotto, 2006; p. 547). This approach aimed to elevate the threat of anecdotalism, whilst concurrently exposing any overt bias in the interpretation.

The development of these ‘thick’ descriptions of the data aimed to capture what Larsson (1998) labels ‘richness’ of meanings. These were selected of the basis of

their encapsulation of the nuances of these meanings contained within the themes. This structure and richness aimed to create a discourse with the reader so they might consider their own observations and experiences of actions within PE settings. Juggling themes of actions whilst bring to the fore the individual, social and cultural dimensions of the movement culture, in relation to the other dimensions, proved a complex task. Initially one discussion section was developed from the data analysis, however, the structure developed did not seem to encapsulate the multiple meanings of the functions of the actions. This required re-analysis of the data to support a more focussed approach to the different dimensions of the movement culture. It also aimed to achieve a more considered balance between richness of the data and the structure of the analysis. In publication 5 the interpretation of the cultural dimension provided support for the focus of the individual dimension of the movement culture in publication 6. However, the analysis within both publications needed to stand alone, so the discussion had to pay particular attention to illustrating the dimension in question in relation to the other dimensions.

The potential for this analysis to develop a discourse with the reader and the research literature was restricted by research journal word limits. The thick descriptions alone soaked up a significant quota of the 7000 word limit. Empirical anchorage was not achieved by relating back to the paucity of research on movement cultures within primary PE. Rather through the quality of interpretation and discussion of the themes. Larsson (1998) claims that the limit to the continual use of particular research fields as a means to demonstrate validity is that such a field does not always have an independent position. This creates a risk of 'institutionalized' discourse as it does not always allow research to escape

'relativism' of that field (Larsson, 1998; p.13). In this respect I aimed to use empirical anchorage of the discussion of the data to demonstrate the heuristic value of the research. Specifically, to convince the reader of the value of action as an empirical departure point which was adopted in publications 5 and 6. In doing so, I wanted to demonstrate that movement culture was a useful conceptual position to support an alternative understanding primary PE.

Reflexivity – publications 5 and 6

The methodology employed in publications 5 and 6 reflect the development of my understanding of research. My engagement with a transactional position on knowledge enabled me to shift my ontological concerns about PE contained within publications 1 and 2 into epistemological questions. My interpretation of the data grew from observations made during the filming and through continual viewings of the video footage I collected. As in publication 3 I had to resist immediate urges to consider the pedagogical limitations and strengths of what I was viewing. I also had to refrain from narrowing my focus on the subject-matter of the lessons and second guessing what the participants might be thinking. These are tasks I am often required to complete in my professional role. Instead, I focussed upon the functions and directions of actions to see how PE was being constituted. This was a challenging and complex process and I had to train myself to learn to see actions as functions and to focus attention on the social, individual and institutional dimensions of these actions. I completed the data analysis alone and then shared the data with a co-researcher who had used this methodology before. This allowed us to verify and challenge the categories of meanings we had initially created from the data in separate viewings. I did wonder at times if we were stating the obvious and challenged the emerging categories and discussion to see

if what we were developing had ‘pragmatic value’ to the PE research community (Larsson, 1998). However, I soon came to the conclusion that as in publication 3, this too would lie in the ‘empirical anchorage’ of my discussion of our findings. Very little research reflected everyday actions within primary PE and my research would aim to invite the reader to engage with the individual, social and institutional dimensions of this movement culture.

Bringing to the foreground one of these dimensions while keeping the other two in the background, presented a significant challenge to my interpretation of the data. This required a ‘to and fro’ process involving reanalysis of the categories of the functions of actions in relation to the social, individual and cultural dimensions of these actions. The first draft of our categorisations and my analysis of the data were presented to the Studies of Meaning Making in Educational Discourses (SMED) research group held at Örebro University, the institution at which my co-author works. The conclusions of their readings of my discussion suggested that greater precision could be achieved, without compromising the richness of the analysis, by splitting the discussion into two publications. This advice was heeded and publication 5 focussed upon bringing the social dimension of the movement culture to the foreground in relation to the individual and cultural dimensions. Publication 6 aimed to bring the individual dimension to the foreground in relation to the social and cultural dimensions.

Chapter summary

I discuss the research methodology used in the empirical publications in this chapter. These studies attempt to address the first part of research question 1 and research question 3 of this thesis. I aim to identify the ontological and

epistemological assumptions made within these research studies and how these have determined the research paradigm, research design, data collection tools and method of analysis.

Chapter 6

Findings

Introduction

This thesis has two purposes, the first; to examine and discuss how John Dewey's theorising of learning and knowledge within experience may provide a theoretical position on knowledge and learning within movement culture. The second; to utilise this position to explore how pupils' and teachers' actions within primary PE lessons constitute and negotiate the movement cultures within their school. By focussing upon these purposes in this chapter, I will now draw together the findings of the theoretical discussion within the thesis and the findings of my publications. To support this aim in Tables 1-3 I provide a summary of the publications, identifying the theoretical frameworks employed and key findings.

Reconceptualising PE as Movement Culture; Findings from Chapter 2 and Publications 1 and 2

Crum's (1993) argument for PE to be considered as movement culture conceptualises the subject as a mutual aspect of human movement within and beyond the school gates. In chapter 2 I find that movement culture offers a position which avoids creating an unknowing child by objectifying knowledge in PE and the performance of subject-matter. Instead, it is the immediate possibilities of exploration of movement culture that become the focus, guided by four interdependent strands of learning. This participation position on learning is strengthened when considered in relation to Dewey's theorising of knowledge within the wholeness of experience. From this standpoint pupils' immediate

experience or occupation of subject-matter becomes a key pedagogical consideration. Such a view of knowledge and learning allows us to move beyond debate about the purposes of PE trapped within prevailing educational ideologies. These are trapped within tensions between competing individual, social, internal and external purposes of education. In aligning with such a position I find that movement culture provides a potential means to support greater understanding of the connections between pupils' lives outside the school gates, their PE lessons and other curricular experiences.

In publication 1 I employ this standpoint to consider the contested terrain between PE and sport. By analysing common sports and activities which feature within school curricula my findings suggest that movement culture offers a coherent conceptual map to rethink the balance and purposes of PE curricula. In publication 2 I use movement culture as a position to identify disconnections in the provision of school PE. I discover that by not objectifying knowledge in PE, movement culture offers a potential solution to these disconnections. These are based upon the need for PE to reflect the second era of modernity by relinquishing a grip on traditional sports. In both publications 1 and 2, I suggest that Crum's (1993) interdependent learning strands provide a useful means to consider the pedagogical transformation of movement cultures into subject-matter.

Games as subject-matter within primary PE movement culture; Findings from Chapter 3 and Publications 3 and 4

In chapter 3 I argue that PE is repeatedly tasked with preparing pupils for an active adult future. However, when viewed from Dewey's theorising of education as occupation this distant 'end-in-view' removes the very conditions pupils need to achieve this ambition. Taking PE as preparation for the future

builds a way of ‘be-ing’ that is about ‘being-a-pupil’ of an institution, rather than a way of ‘be-ing in the present’. In contrast, education as occupation focuses upon the position of subject-matter within pupils’ immediate experience so they can explore the different possibilities for learning such experiences may present. Crum’s (1993) conceptualisation of movement culture draws from this thinking about learning through immediate experiences. Such a position challenges teachers to balance ‘ends-in-view’ created by curricula, with pupils’ occupation of subject-matter. It also requires them not to ‘leap-in’ for their pupils by placing PE subject matter such as sport techniques outside of the pupils’ experience of, for example, game play. This position also challenges teachers not to ‘leap-ahead’ by requiring pupils to perform codified forms of competitive games in preparation for adulthood.

Publication 3 explores the curricular and pedagogical transformation of games as subject-matter within these tensions between PE and sport. Its findings reveal that primary school teacher’s PCK of games are characterised by narrow domain and topic-specific PCK. This was reinforced through personal experiences of games, ITT, CPD and the use of sports coaches in their schools. However, for teachers to fully exploit the possibilities for learning within games activities they need to be able to move between a wide domain-specific and deep topic-specific PCK of games. Publication 4 reveals a disconnection between pedagogical models designed to support the teaching of games and the transformation of traditional sporting forms of games into primary PE subject-matter. I find that this disconnection can be overcome through my analysis of games, based upon the functional relationships between skills, tactical problems, tactical solutions and principles of play.

Exploring movement cultures in primary PE practice; Findings of Chapter 4 and Publications 5 and 6

In chapter 4 I argue Dewey's position on learning and knowledge as experience, specifically the conceptualisation of learning as transaction enables researchers to recognise the congruent relations between 'ongoing-actions-within-PE settings'. From this standpoint learning within movement culture becomes constituted as cultural practice. By taking this practice as a point of departure, action becomes a focal point of interest and turns ontological debate about learning into epistemological questions. I find that research utilising a transactional position on learning can enable researchers to understand how teachers' and pupils' actions constitute the movement cultures within their PE lessons. More specifically I discover they can also support an understanding the relations between the constituted movement culture, the 'ends-in-view' and the 'how' and 'what' of lessons. Publication 5 focusses upon how these actions constitute the movement cultures within observed primary PE lessons. Its findings revealed that pupils and teachers acted within varying sports activities differentiated by the use of contrasting equipment and physical locations. However, rather than constituting different movement cultures, a 'looks-like-sport' movement culture was identified. Succeeding as a pupil within this movement culture demanded an implicit understanding of the need to coordinate actions with others cooperatively. The activity which stood out within this 'looks-like-sport' movement culture involved gymnastics. Here the removal of competition and provision of space for pupils to re-actualise their knowledge, created an interesting blend of pupil engagement, sustained physical activity, creativity, inclusion and cooperation.

Publication 6 explores how pupils and teachers negotiated this 'looks-like-sport' movement culture. Its findings suggest that teachers struggled to negotiate

between ‘sport-for-real’ and directing pupils towards educational ‘ends-in-view’. In order for pupils to re-actualise their knowledge of sport, they were required to

Learning movement culture: Mapping the landscape between physical education and school sport.
Ward, G. (2014) *Sport Education and Society,* 19(5), 569-604.

negotiate the teacher’s ‘how’ and ‘what’ by exploring what constituted cooperative actions within the spatial and social dimensions of the tasks they were set. I claim that if PE is to be more than just the reproduction of codified sport, careful adjustment and consideration of ends-in-view is of great importance. Without regard for the latter there is potential to create significant complexity for both teachers and pupils beyond learning and performing sport techniques. I also suggest that transactional studies have the potential to become a pedagogical tool to support teachers in encouraging pupils to evaluate and reflect upon the implications of ‘ends-in-view’ of activities upon their experiences. This process supports Crum’s (1993) argument for PE to develop critical consumers of movement cultures.

Chapter summary

The findings of the research studies which constitute the main contribution of this thesis to the research field are summarised in this chapter. I present these findings within the theoretical discussions conducted in the preceding chapters in order to provide an overview of the functional relationship between the published body of work and this thesis. Tables 1-3 provide a summary of the publications, identifying the theoretical frameworks employed and key findings.

Aim and Theoretical Framework	Findings and Discussion
• Argues for a need to re-examine the relationship between sport and PE. • Crum's (1993) concept of movement culture is used to examine the landscape between PE and sport. • Conceptualisations of modernity are employed to demonstrate the evolving nature and individualisation of humans' engagement with movement culture. • Maps exemplar sports a subject-material for PE using movement culture.	• Movement culture has the potential to support a coherent analysis of sports as subject-material for PE, in particular by considering sports as movement problems and employing the interdependent technomotor, sociomotor, cognitive reflective and affective strands of learning. • Movement culture has the potential to generate a coherent rationale for pedagogical practice across PE curricula. • Movement culture can create a portable framework capable of tracking the continuity of change within sports.
Physical Education in the UK: Disconnections and reconnections. Griggs, G. and Ward, G. (2012) *Curriculum Journal*, 23(2), 207-229.	
• Identifies key disconnections in the provision of school PE. Disconnections with wider movement culture, other curriculum subjects, within curricula provision for different age phases and between teacher training and teachers' needs. • Crum's (1993) reconceptualisation of PE as movement culture is used to analyse these disconnections.	• Movement culture is considered as a means to reconnect the identified disconnections. • Reconnections are achieved through: - the need for PE to reflect the second era of modernity by relinquishing a grip on traditional sports - the focus on interdependent learning stands throughout the age phases of PE curricula - the development of portable pedagogical frameworks based upon the interdependent learning strands to support teachers analysis of potential subject-matter

Table 1. Overview of Publications 1 and 2; Aims, Theoretical Framework, Findings and Discussion.

Table 2. Overview of Publications 2 and 3; Aims, Theoretical Framework, Findings and Discussion.

Examining primary school Physical Education Coordinators' pedagogical content knowledge of games: Simply playing at this? Ward, G. (2012) *Education 3-13*, 41(6), 562-585.	
Aim and Theoretical Framework	Findings and Discussion
• Analyses the landscape of games teaching in UK primary PE. • Draws from Shulman's (1986) theory of PCK to consider Veal and Makinster's (1999) stratified model of PCK in relation to PE.	• Findings indicate that primary school teacher's PCK of games was very narrow and domain-specific, privileging the development of specific skills. This was reinforced by teacher training and other training courses. • A high value was placed on topic-specific PCK such as very sport-specific content knowledge and pedagogical practices associated with developing specialised sporting performances. • Sport coaches exhibiting these values were regarded as topic 'specialists', with many of their schools employing such personnel to deliver games lessons in their schools. • The breadth of content stipulated by the iteration of the NCPE relevant at the time of the research was overlooked.
Principles of Play: A proposed framework towards a holistic overview of games in primary Physical Education Ward, G. and Griggs, G. (2011) *Education 3-13*, 39(5), 499-516.	
• Analysis the complexity of games as subject-matter for primary PE. • Draws from situated perspectives of learning to examine pedagogical models as a means to support the teaching of games.	• A knowledge gap between pedagogical models and the creation of modified games which allow a focus on the link between skills and tactical solutions is identified. • A functional analysis of games is conducted on the basis of the tactical problems they present players. Principles of play, tactical problems, tactical solutions and examples of on-the-ball and off-the-ball skills are used to support this analysis. • The functional analysis of games represent by the resultant frameworks aim to support primary school teachers in developing pupils' immediate experiences of different tactical dimensions of game play.

Table 3. Overview of Publications 5 and 6; Aims, Theoretical Framework, Findings and Discussion.

<table>
<tr><td colspan="2">Transactions in Primary Physical Education in the UK: A smorgasbord of looks-like-sport
Ward, G. and Quennerstedt, M. (2014) Physical Education and Sport Pedagogy, i-first article available at: http://dx.doi.org/10.1080/17408989.2014.923991</td></tr>
<tr><td>Aim and Theoretical Framework</td><td>Findings and Discussion</td></tr>
<tr><td>• Crum's (1993) reconceptualisation of PE as movement culture is used as a position from which to consider primary PE.

• Dewey and Bentley's (1949/1991) dissolution of the dualism between an individual and their environment is employed as a means to analyse action in context.

• Actions-in-on-going PE activities are analysed using an observational study of primary PE lessons.

• Analysis aimed to understand how pupils' and teachers' actions shaped the movement culture by making it 'in-common'.</td><td>• A multi-activity idea of sampling different sports was compared to eating from a smorgasbord where the flavours of the dishes initially looked different, but were actually the same.

• Each dish was differentiated by the use of contrasting equipment, physical locations and named activities. In reality what was realised was a diluted, repetitive and overriding flavour of 'looks-like-sport'.

• Pupils were tasked with actions which functioned to produce a stage managed show of controlled activity, supplemented compliance to strict behaviour codes and attempting to make highly cooperative tasks and games work through adopting and accepting different roles.

• Succeeding within this movement culture demanded an implicit understanding of the need to coordinate actions with others cooperatively.</td></tr>
<tr><td colspan="2">Knowing in Primary Physical Education in the UK: Negotiating movement culture
Ward, G. and Quennerstedt, M. (2015) Sport Education and Society, 20(5), 588-603.</td></tr>
<tr><td>• Crum's (1993) reconceptualisation of PE as movement culture is used as a position from which to consider primary PE.

• Dewey and Bentley's (1949/1991) dissolution of the dualism between an individual and their environment is employed as a means to analyse action in context.

• Analysis aimed to understand how pupils' and teachers' actions constitute 'being-a-pupil' and 'being-a-teacher' through an observational study of primary PE lessons.

• 'Ends-in-view' of actions were analysed as they appeared through the educational content (what) and pedagogy (how) of the recorded PE experiences.</td><td>• The movement culture was identified as a monoculture of 'looks-like-sport' characterised by a privileging of the functional coordination of cooperative action.

• Teachers were required to ensure pupils looked busy and reproduced cooperative 'looks-like-sport' actions. In fulfilling this role, they struggled to negotiate between their knowledge of 'sport-for-real' and directing pupils towards educational 'ends-in-view'.

• Simply being good at sports was not a prerequisite for pupils' success in this movement culture. In order to re-actualise their knowledge of sport, pupils were required to negotiate the teachers' 'how' and 'what' by exploring what constituted cooperative actions within the spatial and social dimensions of the tasks they were set.

• Moving beyond the reproduction of codified sport in PE requires careful adjustment and consideration of 'ends-in-view'. Without regard for the latter there is potential to create significant complexity for both teachers and pupils beyond that required by learning and performing sport.</td></tr>
</table>

Chapter 7

Discussions and Conclusions

Introduction

My ambition for this thesis was to explore a theoretical position which dissolves mind-body divisions and supports an embodied, action orientated position on knowledge and learning within movement culture. I also set out to examine how taking such a position shifts the debate about learning from ontological concerns to epistemological questions. These questions focus upon the exploration of what constitutes learning and knowledge within everyday primary PE practices. In the previous chapter I presented my key findings in relation to these ambitions by drawing together the theoretical discussions in the preceding chapters and the main findings from the publications. The aim of this concluding chapter is to evaluate the significance of these findings by identifying my specific contribution to the debate about learning and knowledge in primary PE. To accomplish this I first address each of my research questions to identify my original contribution to the PE research field. I then discuss the potential implications of my contribution for primary PE and the research field. Finally, I consider further research questions emerging from my work.

Identifying my contribution to the research field by addressing my research questions

1. *How can reconceptualising PE as movement culture overcome the reproduction of disconnections within the subject and support a coherent exploration of sport as subject material?*

In this thesis, movement culture provides a position which draws attention to the different possibilities for learning in PE in which pupils are considered as

knowledge producers (Quennerstedt, 2013a; 2013b, Quennerstedt, Almqvist and Öhman, 2011). This embodied, sociocultural position on learning is considerably strengthened when viewed in relation to Dewey's epistemological position on knowledge (Dewey, 1938/1997; Dewey and Bentley, 1949/1991). From this standpoint learning and knowledge are a mutual part of immediate on-going experiences rather than goals focussed upon a distant adult future. The latter have has been identified by the research field as problematic for research and provision of school PE (Green, 2014; Kirk, 2010; Thorburn and MacAllister, 2013; Whatman and Singh, 2015). By not objectifying subject-matter, Crum's (1993) reconceptualisation of PE as movement culture does not create a position of unknowing for pupils in PE (Cliff, 2012; Larsson and Quennerstedt, 2012).

Instead, Crum (1993) suggests exploring participation through four interdependent learning strands. In Ward (2014) I demonstrate how these stands provide a useful structure to open-out the different opportunities for learning within traditional PE. I use movement culture in Ward (2014) and in Griggs and Ward (2012) to conceptualise what may constitute as knowing in PE within the contested terrain between sport and PE. Griggs and Ward (2012) identify prominent disconnections within the provision of PE in schools and demonstrate how viewing PE from the position of movement culture can provide greater coherence. Specifically, by creating better continuity between age ranges, stronger connections between PE, other school subjects and wider movement culture, in addition to training and teacher needs. In this way reconceptualising PE with movement culture helps us to understand the advantages of dissolving mind-body dualisms and adopting an embodied, action orientated position on knowledge.

Such positions can help provide a deeper and coherent understanding of the practical nature of learning within PE.

2. *How does an analysis of practising primary teachers' Pedagogical Content Knowledge (PCK) and models-based practice designed to support the teaching of games, develop our understanding of the positioning of games as subject-matter in pupils' PE experiences?*

PCK is reflective of teachers' personal and professional engagement with subject-matter. It offers a potential lens on teachers' 'reflective mode' of thinking within experience when transforming subject-matter into curricula and pedagogical events for their pupils. In Ward (2012) I identify how in primary PE, the PESSCL and PESSYP strategies in England have helped to solidify dualist approaches to the teaching of games. This was reflected in how the teachers separated pupils from the subject-matter, in particular, avoiding the 'reflective' and 'non-reflective' thinking demanded by the tactical challenges posed by ever-changing game play. In effect they 'leapt-in' for their pupils by placing the subject-matter of techniques outside of game play. They also 'leapt-ahead' of their pupils by privileging subject-matter over their pupils in requiring them to play codified forms of competitive games for their adult future.

Whilst, pedagogical models aim to position technical and tactical subject-matter within pupils' immediate experiences of games, the necessary pedagogical and curricula transformation of this subject-matter is overlooked. In Ward and Griggs (2011) I argue how operationalising pedagogical models for primary aged pupils requires key technical and tactical concepts and relations within games to be extracted and distilled. Doing such work allows coherent and meaningful experiences to be created and enables pupils to occupy the technical and tactical

decision making that constitute competitive games. I demonstrate how such pedagogical and curricula transformation of codified games can be achieved by analysing the relations between; games, their rules, tactical problems, skills, tactical solutions through principals of play. This is based upon the purpose and functions of actions of players constrained by the rules of games. The analysis of pedagogical models and PCK thus help to shed light upon how an embodied position on knowledge and learning can support our understanding of pedagogical practices which aim to create closer or occupational relations between pupils and subject-matter.

3. *What does the dissolution of mind-body dualisms reveal about learning within everyday primary PE movement cultures?*

In Ward and Quennerstedt (2014; 2015) I employ Dewey and Bentley's (1949/1991) transactional theory of learning to research primary PE movement cultures. Here it is argued that a transactional position allows 'ongoing-actions-within-PE' settings to become the point of departure for observational studies of everyday primary PE. These can permit an insight into knowledge production within PE and the complex interplay of social, individual and institutional dimensions of learning. From such a position, in Ward and Quennerstedt (2014), I aim to understand how pupils' and teachers' actions constitute the movement cultures in a UK primary school. This study suggests that rather than re-enacting competitive 'sport-for-real', the teachers' functional coordination of pupils' actions within this school created a monoculture of 'looks-like-sport'. The latter was constituted by the use of stage-managed games and co-operative practices in which tension was managed so as to produce busy looking, but controlled activity. This required both teachers and pupils to consistently negotiate their experiences

in order to achieve stability in the functional coordination of their actions. In Ward and Quennerstedt (2015) I reveal within this 'looks-like-sport' movement culture teachers can struggle to negotiate between 'sport-for-real' and direct pupils towards educational 'ends-in-view'. In order for the pupils to re-actualise their knowledge of movement culture within this context they were required to explore what constituted cooperative actions within the spatial and social dimensions of the tasks set.

These findings raise the importance of considering 'ends-in-view' within such a movement culture, in particular, the potential for them to create significant complexity for both teachers and pupils. Only gymnastics appeared to standout from this looks-like-sport movement culture, where the provision of space for pupils to re-actualise their knowledge, facilitated pupil engagement, sustained physical activity, creativity, inclusion and cooperation. However, as a monoculture, the 'looks-like-sport' movement culture presented a very different picture to the importance of a wide variety of experiences that research suggests, are needed for developing long-term participation in physical activity (Engström, 2008; Green, 2014; Smith, et al., 2007). Action orientated theories of learning such as Dewey and Bentley's (1949/1991) transactional position, help us to recognise and obtain some insight into the complexity of learning within PE. They also help us to develop research methods which enable young pupils' experiences to be represented within the PE research field and have potential as a CPD tool to support teachers' pedagogical practices.

A discussion of the significance of my findings

By addressing my research questions I have identified my contribution to the research field. In the second part of this chapter I now aim to consider the significance of this knowledge to the practice and research of primary school PE. To achieve this I will first address the consequences of my findings for the PE research field. I then widen my discussion to consider their significance in relation to contemporary discourses surrounding pedagogical practice of the subject in primary schools.

Consequences for research in PE

At a conceptual level this thesis contributes to discussions about knowledge and learning within the contested terrain between sport and PE. My findings in this area demonstrate the strengths of adopting an embodied, action orientated position on learning when considering the transformation of wider movement culture into subject-matter for primary PE. Such discussions are important because it is pedagogical practices within the subject that set it apart from training of the body and sport.

The mainstay claims made by the research field of PE practices has been based upon the secondary age range. Older pupils have become a main source of interest because, within methodological limits, they are able to verbalise and reflect upon their experiences. However, the secondary sector represents only half of the picture of PE practices. The experiences of primary pupils remain a relatively peripheral feature of the research field. By allowing primary practices to be represented, my findings help to broaden our understanding of PE beyond the secondary age range. In aiming to overcome the limitations created by a need for

verbal articulation, publications 5 and 6 suggest it is possible to draw attention to young pupils' experiences of PE. These findings stand alongside recent work, for example, by Everley and Macfadyen (2015) and McEvilly (2015) which have employed the use of drawings as a methodological solution to researching young pupils' perspectives of physical activity. By building upon similar methodological approaches developed by Klaar and Öhman (2012; 2014) in early childhood settings, investigating 'actions-in-PE-settings' reveals significant potential in widening our understanding of the youngest pupils working within PE contexts.

My studies of primary PE movement culture also help to add to the methodologies employed to understand and research learning within PE contexts. There is more work to do here in relation to the use of transactional methodological tools to deepen our understanding of the action dimensions of learning and knowledge. This may aim to investigate learning cultures across learning contexts within the primary curriculum. For example, by looking into differences and similarities between knowledge and learning in PE, the playground and other practical and classroom based activities. Such research is also positioned to include the very youngest pupils in primary schools whose experiences are often overlooked. My use of a transactional approach to understanding movement cultures suggests that such methodology may also help to develop tools to close the gap between the theory and practice of PE. To create greater significance to the practice of PE the research community may also look to continue to explore theoretical positions that broaden our understanding of continual professional development. In doing so, this type of research may be employed in situ to support teachers' understanding of learning and knowledge

and in turn develop their pedagogical practices across school curricula (Armour, et al., 2015).

There has been a historical development within the research field in the plurality of theoretical positions employed to research learning and knowledge within PE. These have been congruent with the dominance of particular educational ideologies and the theoretical currency of other more established research fields that have been utilised to study PE. According to Tinning (2013) whilst the PE research field is reaching maturity there remain some highly contested divisions. The ensuring debate and communication between different positions, however, will strengthen the contribution of our knowledge and understanding of PE practice. The evolution of debate within PE research has also been reflected within the education, sport and health discourses which continue to shape the practice of the subject in schools. To the subjects' detriment these discourses require PE to renounce the plurality of possibilities that it offers. Unfortunately, it is the diversity of what PE is and what you can become through it, which provides the subject's strength, both as a research field and as a school subject. It is here that my findings and the research field have an important role to play.

By communicating what has been found with the wider community, the consequences of the decisions made by stake holders of policy and practice can be shared, challenged or celebrated. The value of sociocultural research studies lies in the cultural milieu of their findings, in which knowing and the known are symbiotic. In other words they are couched within what is reasonably apt, dependent of evidence

and located within the messy life of educational practice. The research field will be strengthened by continuing to capitalise upon the diversity of the communicative position of rationality sociocultural approaches offer. Movement culture provides a potentially useful position from which to explore the plurality of knowing. It adds to the conceptual positions that help to challenge prevailing ideological and common sense ideas of knowledge and helps to demonstrate the value and significance of a communicative rationality. A position based upon intersubjective truths developed through experience. The PE research field has a duty to the subject to continue to engage in debate with the wider community to champion the strengths of recognising a variety of ways of understanding learning and knowledge. Significantly, how PE practice fits into our be-ing and continual growth within the world.

Having addressed the research field, I now turn to consider the consequences of my findings to the pedagogical practice of primary PE. I aim to employ the position of movement culture and my understanding of PE practice to open up my discussion to consider contemporary challenges facing the subject in primary schools.

Consequences for pedagogical practices within Primary PE

According to Griggs (2015) primary PE may be at a defining stage in its history. Primary schools have recently been given a skeletal NCPPE which has removed concepts of breadth and balance and national assessment standards. They are also in receipt of a PE pupil premium (DCMS/DfES, 2014) (subject to government spending reviews), which provides a funding stream for schools to buy in external providers should they wish. There have also been moves to develop PE specialist

primary ITT courses (National College for Teaching and Leadership, 2015) whilst CPD provision remains limited to school budgetary priorities and external one day courses (Mackintosh and Liddle, 2014). What does the position on learning and knowledge within movement culture I have explored offer in relation to this context?

The skeletal NCPPE offers an opportunity to use movement culture to consider alternative dimensions of sports which can be explored and questioned, such as heteronormativity and performativity (Azzarito and Katzew, 2013; Lam and Priyadharshini, 2015; Larsson, Quennerstedt and Öhman, 2014). It can also help us to challenge the subject to consider what it means to be healthy in relation to the physical and social environment in which a pupil lives (O'Connor and Alfrey, 2015). In doing so, attention can be drawn towards alternative conceptions of health other than prevailing dualistic medicalised models, such as salutogenic approaches (Quennerstedt, 2008b). This also helps us to consider how alternative positions as to what constitutes knowing about health require alternative pedagogies (Fitzpatrick and Russell, 2015).

Movement culture may also provide a useful position to support the choice of sports and physical activities included in PE, by bringing pupils' own interests and concerns into consideration. From this position, play-ground exploration, games making, cycling proficiency, navigation and outdoor pursuits, water safety/life preservation and team building/problem solving, may become more serious contenders for primary PE subject-matter. The deregulation of assessment practices within the new NCPPE orders for England provides an additional opportunity to allow learning outcomes to be designed to fit this

diversification and exploration of subject-matter. Worryingly, the movement culture I reveal in Ward and Quennerstedt (2014; 2015) would struggle to fulfil the measures for high quality PE described by AfPE (2015) or DfES (2004). As looks-like-sport it is neither 'sport' or constitutes high quality learning in 'PE'.

Relying solely upon sports coaches or teachers alone to redesign PE curricula so they meet the requirements of NCPPE, yet additionally open up PE lessons to wider learning experiences, does not seem the way forward. Specialist PE teachers are similarly not necessarily the panacea for primary PE that at first they may seem. According to Penney (2013) in the secondary sector, which has been inhabited by subject-specialists for a number of decades, breaking free from restrictive multi-sport curricula, pedagogy and assessment practices has yet to be achieved (Jones and Green, 2015). A way forward may be look at capitalising on primary teachers existing pedagogical expertise.

In primary schools 'cumulative' rather than 'segmented' approaches to learning have been fostered through a tradition of multi-disciplinary generalist teaching (Maton, 2011). Primary teachers are experts in transforming extensive and regulative curriculum orders into learning experiences (Traianou, 2006; Trotman, 2008). These experiences are required to build toward the achievement of defined learning outcomes and regulatory assessment practices. Current forms of CPD for PE have yet to captialise upon this expertise and teachers have been fed an incoherent diet of sports coaching and fitness courses (Griggs, 2015). Operationalising any transformation of primary PE curricula will require a different model of approach to professional support.

Armour, et al., (2015) suggest Dewey's theorising of learning as growth (1916/1988) may be a potential way to help shift our thinking in relation to CPD. By working as many researchers do, akin to 'learners', a position of moving forward rather than one of deficit can be achieved. Such an approach leaves very scant grounds to justify practices of franchising out delivery on the basis of limited low professional confidence and subject-matter expertise. Primary education has been built upon a belief that having oversight of pupils' personal and collective growth is considered of more value than the segmentation of subject-matter and teaching on the basis of expertise. Franchising delivery to 'specialists', therefore, poses significant risks to the fragmentation of curriculum coherence and teachers' knowledge about individual children. Learning as growth in this context would mean pupils' interests, negotiating 'ends-in-view' and exploring these pedagogically becomes a continual process. Not defined solely by national curricula, sport strategies or competitive sport as subject-matter. The task here for both the teaching and research communities is to develop contextualised, dynamic and continuous professional development, which will demand "further theorising and research to design, pilot and embed new approaches" (Armour, et al.,2015; p.10).

Conclusions

The strength of PE lies in the diversity of possibilities it offers rather, than trying to pin the subject down to particular purposes and content. Attempts at the latter simply reproduce different educational ideologies in the quest for some ultimate truth about what constitutes being physically educated and to whose purpose this should serve. The work of pragmatist philosophers such a Dewey helps to reveal the limitations of such positions by demonstrating the important

role of immediate experience in learning and intersubjectivity of knowledge. The significance of reconceptualising PE as movement culture depends upon the purposes to which the position is put. It is not intended as a logic of practice to which I claim PE should ascribe. In this thesis I have demonstrated that movement culture offers a position from which to consider the continuity between PE and pupils' lives within and outside of the school gates. It creates a standpoint that allows us to consider the learning cultures created through the pedagogical and curricula transformation of subject-matter for PE. Such a sociocultural position can support our understanding of the action, continuity and scalar dimensions of learning. This perspective enables researchers and teachers to understand what learning within PE movement cultures might mean for all concerned. It also helps us to consider the variety of meanings which may be created from the conjoining of pupils, their environment and subject-matter.

Pedagogically, such a position brings pupils' immediate experiences to the fore as a starting point to explore the possibilities of movement cultures as subject-matter for PE. It also helps to challenge our ideas as to what subject-matter could be within PE and the possibilities of learning outcomes other than those that focus on performance sport or bodily training for fitness. From a research perspective questions arise in relation to understanding very young pupils' experiences of knowing within PE and how learning and knowledge are embodied across subject areas in comparison to PE. Addressing such questions may help to support new understandings of learning and knowledge within schools that are concurrent with developing new methodologies and research tools. These may in turn support the continuing development of pedagogical practices. Exploring possible answers to these questions will provide the next direction for my journey within PE research.

Chapter summary

In this chapter I return to the three research questions posed and discuss how these are addressed through the theoretical discussions in this thesis and my research studies. In order to identify my contribution to knowledge I discuss the significance of these findings for the research field. I then open up this discussion to consider the wider significance of these findings for primary PE practice. In drawing conclusions from this discussion, I propose further research questions.

References

Alexander, R. (2011) *Culture and pedagogy: International comparisons*, Oxford: Blackwell.

Almond, L. (2010) forward: Revisiting the TGfU brand, In J. Butler and L. Griffin (Eds) *More teaching games for understanding: Moving globally*, Champaign, Il: Human kinetics, vii-x.

Amade-Escot, C. (2000) The contribution of two research programmes on teaching content: pedagogical content knowledge and didactics of physical education, *Journal of Teaching in Physical Education*, 20(1), 78-101.

Andersson, J. Östman, L. and Öhman, M. (2013) I am sailing towards a transactional analysis of 'body techniques', *Sport, Education and Society*, i-first article, available at: http://dx.doi.org/10.1080/13573322.2013.802684 [accessed 22nd January, 2014].

Armour, K. (2010) The physical education profession and its professional responsibility … or … why '12 weeks paid holiday' will never be enough, *Physical Education and Sport Pedagogy*, 15(1), 1-13.

Armour, K. and Chambers, F. (2014) Sport and exercise pedagogy: the case for a new integrative sub-discipline in the field of sport and exercise sciences/kinesiology/human movement sciences, *Sport, Education and Society*, i-first article, available at: http://dx.doi.org/10.1080/13573322.2013.859132 [accessed 17th December, 2014].

Armour, K. and Duncombe, R. (2004) Teachers' continuing professional development in primary physical education: lessons from present and past to inform the future, *Physical Education and Sport Pedagogy*, 9(1), 3-22.

Armour, M., Quennerstedt, M., Chambers, F. and Kyriaki, M. (2015) What is 'effective' CPD for contemporary physical education teachers? A Deweyan framework, *Sport, Education and Society*, i-first article, available at: http://dx.doi.org/10.1080/13573322.2015.1083000 [accessed 17th November, 2015].

Arnold, P. J. (1979) *Meaning in movement, sport and physical education*, London: Heinemann.

Association for Physical Education (AfPE) (2008) *A manifesto for a world class system of physical education*, Reading: AfPE.

Association for Physical Education (AfPE) (2015) Quality Mark for Physical Education and Sport, available at: http://www.afpe.org.uk/professional-leadership/afpe-quality-mark-for-pe-a-sport [accessed: 12th October 2015].

Atencio, M., Jess, M. and Dewar, K. (2012) It is a case of changing your though processes, the way you actually teach: Implementing a complex professional learning agenda in Scottish physical education, *Physical Education and Sport Pedagogy*, 17(2), 127-144.

Atencio, M., Jia Yi, C., Wee Keat, C. and Chang Yi, M. and Miriam, L. (2014) Using a complex nonlinear pedagogical approach to design practical primary physical education lessons, *European Physical Education Review,* 20(2) 244-263.

Avruch, K. (1998) *Culture and Conflict Resolution*, Washington DC: United States Institute of Peace Press.

Ayvazo, S., Ward, P. and Stuhr, P. (2010) Teaching and assessing content knowledge in preservice physical education, *Journal of Physical Education, Recreation and Dance,* 81, 40-44.

Azzarito, L. (2010) Future Girls, transcendent femininities and new pedagogies: toward girls' hybrid bodies? *Sport, Education and Society*, 15(3), 261-275.

Azzarito, L. and Katzew, A. (2013) Performing identities in Physical Education (En)gendering fluid selves, *Research Quarterly for Exercise and Sport*, 81(1), 25-37.

Bailey, R. (2007) Talent development and the luck problem*, Sport Ethics and Philosophy*, 1(2), 367-377.

Bailey, R., Armour, K. Kirk, D., Jess, M. Pickup, I. and Sandford, R. (2009) The educational benefits claimed for physical education and school sport: An academic review, *Research Papers in Education*, 24(1), 1-27.

Ball, D., Thames, H. Phelps, G. (2008) Content knowledge for teaching: What makes it special?, *Journal of Teacher Education*, 59(5), 389-407.

Banks, J. (1993) The canon debate, knowledge construction and multicultural education, *Educational Researcher,* 22(5), 4-14.

Barad, K. (2003) Posthumanist performativity: Toward and understanding of how matter comes to matter, *Signs: Journal of Women in Culture and Society*, 28(3), 801-831.

Barker, D. Quennerstedt, M. Annerstedt, C. (2014) Embodied interaction in physical education: examining group work from a multimodal perspective, Proceedings from AIESEP conference, *Educating for Active Healthy Citizens,* University of Auckland, 10-13 February 2014.

Bauman, Z. (1992) *Intimations of Postmodernity,* London: Routledge.

Baumert, J., Kunter, M., Blum, W., Brunner, M., Voss, T. , Jordan, A., Klusmann, U., Krauss, S., Neubrand M. and Tsai, Y. (2010) Teachers' mathematical knowledge, cognitive activation in the classroom and Student progress, *American Educational Research Journal,* 47(1), 133–180.

Beck, U. (2011) The Cosmopolitan Manifesto, In D. Held and G. Brown (Eds) *The Cosmopolitanism Reader,* Cambridge: Polity Press, 217-228.

Beck, U. (1998). *Democracy without enemies*. Cambridge: Polity Press.

Beck, U. and Beck-Gernsheim, E. (1995) *The normal chaos of love*, Cambridge: Polity Press.

Beck, U., Bonss, W., and Lau, C. (2003) The theory of reflexive modernization: Problematic, hypotheses and research programme, *Theory Culture Society,* 20(2), 1-33.

Beck, U., Giddens, A. and Lash, S. (1994) *Reflexive modernization : Politics, tradition and aesthetics in the modern social order*, Cambridge: Polity Press.

Beurden, van E., Zask, A., Barnett, L. and Dietrich, U. (2002) Fundamental movement skills: How do primary school children perform? The 'Move it Groove it' program in rural Australia, *Journal of Science and Medicine in Sport*, 5(3), 244-252.

Bernard, H. and Ryan, G. (2010) Analysing Qualitative Data: Systematic Approaches, London: Sage Publications.

Best, D. (1978) *Philosophy and human movement*, London: George Allen and Unwin.

Biesta, G. (2010) This is my truth, tell me yours: Deconstructive pragmatism as a philosophy for education, *Education Philosophy and Theory,* 42(7), 710-727.

Biesta, G. (2011) From learning cultures to educational culture: Values and judgements in educational research and educational improvement, *International Journal of Early Childhood*, 43(3), 199-211.

Biesta, G. (2014) Pragmatising the curriculum: bridging the knowledge back into curriculum conversation but via pragmatism, *The Curriculum Journal,* 25(1), 29-49.

Biesta, G., and Burbules, N. (2003) *Pragmatism and educational research*, Boulder, CO: Rowman and Littlefield.

Biesta, G. and Osberg, D. (2010) Complexity, education and politics from the inside-out and the outside-in: An introduction, In D. Osberg and G. Biesta (Eds) *Complexity Theory and the Politics of Education,* Rotterdam: Sense Publishers.

Blair, R. and Capel, S. (2008) Intended or unintended? Issues arising from the implementation of the UK Government's 2003 Schools Workforce Remodelling Act, *Perspectives in Education*, 26 (2), 105-121.

Blair, R. and Capel, S. (2011) Primary physical education, coaches and continuing professional development, *Sport, Education and Society*, 16(4), 485-505.

Bloom, B. and Krathwohl, R. (1956) *Taxonomy of educational objectives: The classification of educational goals, by a committee of college and university examiners: Handbook 1: Cognitive domain*, New York: Longmans.

Bloomer, M. and Hodkinson, P. (2000) Learning careers: Continuity and change in young people's dispositions to learning, *British Educational Research Journal*, 26(5), 583–597.

Boisvert, R. (1998) *John Dewey: Rethinking our time*. New York: State University of New York Press.

Braun, V. and Clarke, V. (2006) Using thematic analysis in psychology, *Qualitative Research in Psychology*, 3(2), 77-101.

Brenner, M. (2006) Interviewing in educational research, In J, Green, G. Camilli and P. Elmore (Eds) *Handbook of commentary methods in educational research,* Mahwah, NJ: Lawrence Erlbaum.

Bryman, A. (2008) *Social research* (3rd edition), Oxford: Oxford University Press.

British Educational Research Association (BERA) (2011) *Ethical guidelines for educational research*, London: BERA, available at: http://www.bera.ac.uk/publications/Ethical%20Guidelines [accessed: 22nd February 2012].

Brown, T. and Payne, P. (2009) Conceptualizing the phenomenology of movement in physical education: Implications for pedagogical inquiry and development *Quest,* 61, 418-441.

Bruner, J. (2009) Culture, mind and education, In K, Illeris (Ed) *Contemporary theories of learning: Learning theorists in their own words*, Abingdon: Routledge, 159-168.

Bunker, D. and Thorpe, R. (1982) A model for the teaching of games in the secondary school, *Bulletin of Physical Education,* 18(1), 5-8.

Butler, J. (2005). TGfU pedagogy: Old dogs, new tricks and puppy school, *Physical Education and Sport Pedagogy,* 10(3), 225-240.

Butler, J. (2014) TGfU: Would you know it if you saw it? Benchmarks from the tacit knowledge of the founders, *European Physical Education Review*, 20(4), 465–488.

Calderhead, J. (1996) Teachers: Beliefs and knowledge, In D.C. Berliner and R.C. Calfee (Eds) *Handbook of educational psychology*, New York: Macmillan, 709-725.

Capel, S. (2005) Teachers, teaching and pedagogy in physical education, In K. Green and K. Hardman (Eds) *Physical education essential issues*, London: Sage Publications, 111-127.

Capel, S. (2007) Moving beyond physical education subject knowledge to develop knowledgeable teachers of the subject, *Curriculum Journal*,18(4), 493-507.

Capel, S. and Blair, R. (2013) Why do physical education teachers adopt a particular way of teaching? In S. Capel and M. Whitehead (Eds) *Debates in physical education,* Abingdon: Routledge.

Carlgren, I., Forsberg, E. and Lindberg, V. (2009) *Perspective of discussion of knowledge in Swedish schools*, Stockholm: University of Stockholm.

Carr, D. (1981) Knowledge in 'Practice', *American Philosophical Quarterly,* 18(1), 53-54.

Carr, D. (1997) Physical education and value diversity: a response to Andrew Reid, *European Physical Education Review*, 3(2), 195-205.

Carroll, B. and Loumidis, J. (2001) Children's perceived competence and enjoyment in physical education and physical activity outside school, *European Physical Education Review*, 7(1), 24-43.

Carse, N. (2015) Primary teachers as physical education curriculum change agents, *European Physical Education Review*, i-first article, available at: http://epe.sagepub.com/content/early/2015/02/18/1356336X14567691 [accessed 17th October, 2015].

Casbon, C. and Walters, L. (2004) The English approach to collecting information on the quality of Physical Education and School Sport (PESS) in English schools and its impact on young people and whole school improvement, *Paper presented at the Australian Association for Research in Education (*AARE), Melbourne.

Casey, A. (2014) Models-based practice: great white hope or white elephant?, *Physical Education and Sport Pedagogy*,19(1),18-34.

Casey, A. and Dyson, B. (2009) The implementation of models-based practice in physical education through action research, *European Physical Education Review,* 15(2),175-199.

Charlesworth, A. (2014) Data Protection and Research Data: Questions and Answers, Glasgow: Jisc Legal, University of Strathclyde, available at: http://www.jisclegal.ac.uk/Portals/12/Documents/Data%20Protection%20and%20Research%20Data%20Questions%20and%20Answers%20140822.pdf [accessed: 12st March, 2015].

Chen, Y. and Curtner-Smith, M. (2013) Hegemonic masculinity in sport education Case studies of experienced in-service teachers with teaching orientations, *European Physical Education Review*, 19(3), 360-380**.**

Chen, Y., Rovegno, I., Cone, S. and Cone, T. (2012) An accomplished teacher's use of scaffolding during a second-grade unit on designing games, *Research Quarterly for Exercise and Sport*, 83(2), 221-234.

Chiviacowsky, S and Wulf, G. (2005) Self-controlled feedback is effective if it is based on the learner's performance, *Research Quarterly for Exercise and Sport*, 76(1), 42-48.

Clarke, G and Quill, M. (2003) Researching sport education in action: A cased study, *European Physical Education Review,* 9, 253-266.

Clegg, J. (2011) An Existential Phenomenological Examination of Parkour and Free running, Unpublished Master's Theses, available at: http://scholarworks.sjsu.edu/etd_theses/4042 [accessed: 21st February, 2015].

Cliff, K. (2012) A sociocultural perspective as a curriculum change in health and physical education, *Sport, Education and Society*, 17(3), 293-311.

Cliff, D., Okely, A., Smith, L., and McKeen, K. (2009) Relationships between fundamental movement skills and objectively measured physical activity in preschool children, *Paediatric Exercise Science,* 21, 436-449.

Cobb, P. (1994) Where is the mind? Constructivist and sociocultural perspectives on mathematical development, *Educational Researcher*, 23(7), 13-20.

Coffield, F. (2008) *Just suppose teaching and learning became the first priority,* London: Learning and Skills Network.

Colebrook, C. (2000) From radical representations to corporeal becomings: The feminist philosophy of Lloyd, Grosz, and Gatens, *Reconfiguring Feminism and Philosophy*, 15(2), 76–93.

Collinet, C. Delalandre, M. Schut, P-O. and Lessard, C. (2013) Physical practices and sportification: Between institutionalisation and standardisation. The example of three activities in France, *The International Journal of the History of Sport*, 30(9), 989-1007.

Craft, A., Cremin, T., Hay, P. and Clack, J. (2014) Creative primary schools: developing and maintaining pedagogy for creativity, *Ethnography and Education*, 9(1), 16–34.

Creasy, J., Whipp, P. and Jackson, B. (2012) Teachers' pedagogical content knowledge and students' learning outcomes in ball game instruction, *Journal of Research in Health, Physical Education, Recreation, Sport and Dance*, 7(1), 3-11.

Creswell, J. (2007) *Qualitative inquiry and research design: Choosing among five approaches* (2nd edition), Thousand Oaks, CA: Sage Publications

Crotty, M. (1998) *The foundations of social research: Meaning and perspective in the research process,* London: Sage Publications.

Crum, B. (1992) *Over de Versporting van de Samenleving*, Haarlem: De Vrieseborch.

Crum, B. (1993) Conventional thought and practice in physical education: Problems of teaching and implications for change, *Quest,* 45, 339-356.

Crum, B. (1995) Changes in movement culture: A challenge for sport pedagogy, In G. Doll-Tepper and W. Brettschneider (Eds) *Physical education and sport: changes and challenges,* Aachen: Meyer and Meyer, 114-131.

Curtner-Smith, M.D. (2001) The occupational socialization of a first year physical education teacher with a teaching orientation, *Sport, Education and Society*, 6(1), 81-105.

Curtner-Smith, M., Hastie, P. and Kinchin, G. (2008) Influence of occupational socialization on beginning teachers' interpretation and delivery of sport education, *Sport, Education and Society,* 13(1), 97–117.

Dagkas, S. and Hynter, L. (2015) Racialised pedagogical practices influencing young Muslim's physical culture, *Physical Education and Sport Pedagogy*, 20(5), 547-559

Data Protection Act (1998) Chapter 29, Norwich: TSO (The Stationery Office), available at: http://www.legislation.gov.uk/ukpga/1998/29/contents [accessed: 28th March, 2015].

Davies, A. (1995) Criterion referenced assessment, *Journal of the Philosophy of Education,* 29(1), 3-21.

Davis, B. and Sumara, D. (2002) Why Aren't They Getting This? Working through the regressive myths of constructivist pedagogy, *Teaching Education*, 14 (2), 123-140.

Davis, B. and Sumara, D. (2003) Constructivist discourses and the field of education: Problems and possibilities, *Educational Theory,* 52(4), 409-428.

Davis, P. (2007) A consideration of the normative status of skill in the purposive sports, *Sport, Ethics and Philosophy*, 1(1), 22-32.

DeCorby, K., Halas, J., Dixon, S., Wintrup, L. and Janzen, H. (2005) Classroom teachers and the challenges of delivering quality physical education, *The Journal of Educational Research*, 98(4), 208-220.

DeFalco, A. (2010) An analysis of John Dewey's notion of occupations: Still pedagogically valuable? *Education and culture,* 26(1), available at: http://docs.lib.purdue.edu/eandc/vol26/iss1/art7 [accessed: 5 January, 2014].

den Duyn, N. (1986) Why it makes sense to play games, *Sports Coach*, Spring, 6-9.

den Duyn, N. (1987) *Game sense: Developing thinking players workbook*, Canberra: Australian Sports Commission.

Deng, Z. (2007) Transforming the subject matter: Examining the intellectual roots of pedagogical content knowledge, *Curriculum Inquiry*, 37(3), 279–295.

Deng, Z. and Luke, A. (2007) Subject matter: Defining and theorizing school subjects, In F. Connelly, M. He, and J. Phillion (Eds.) *Sage handbook of curriculum and instruction*, Thousand Oaks, CA: Sage Publications, 66-90.

Department for Children, Schools and Families (DCSF) (2008) *Physical Education and Sport Strategy for Young People,* London: DCSF.

Department for Culture, Media and Sport/Department for Education (DCMS/DfES) (2014) *PE and sport premium for primary schools*, available at: https://www.gov.uk/government/policies/getting-more-people-playing-sport/supporting-pages/school-pe-and-sport-funding

Department for Education (DfE) (2014) The national curriculum for physical education, available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/239040/PRIMARY_national_curriculum_-_Physical_education.pdf [accessed: 28th June, 2014].

Department for Education and Employment/Qualifications and Curriculum Authority (DfEE/QCA) (1999) *The National Curriculum in England; Physical Education*, London:

Department for Education and Skills (DfES) (2003) *Raising standards and tackling workload: a national agreement,* London: DfES.

Department for Education and Skills (DfES) (2004) *High quality physical education and sport for young people: A guide to recognising and achieving high quality physical education and sport in schools and clubs*, Annesley: DfES Publications.

Department for Education and Skills/Department for Culture Media and Sport (DfES/DCMS) (2003) *Learning through Physical Education and Sport: A Guide to the Physical Education, School Sport and Club Links Strategy,* London: DfES/DCMS.

Department of National Heritage (DNH) (1995) *Sport: Raising the Game*. London: DNH.

Devís- Devís, J. (2006) Socially critical research perspectives in physical education, In D. Kirk, D. Macdonald and M, O'Sullivan (Eds) *The handbook of physical education,* Abingdon: Routledge, 37-58.

Dewey, J. (1897/1972) The psychological aspect of the school curriculum, In J. A. Boydston and F. Bowers: *The early works of John Dewey 1895-1898*, Carbondale: University of Southern Illinois Press.

Dewey, J. (1902) *The child and the curriculum*, Chicago, IL: The University of Chicago Press.

Dewey, J. (1916/1988) Democracy and education, In J. A. Boydston (Ed) *John Dewey: The Middle Works, Vol. 9*, Carbondale: University of Southern Illinois Press.

Dewey (1920/1988), Reconstruction in philosophy and essays, In J. A. Boydston (Ed) *John Dewey: The Middle Works, Vol. 12*, Carbondale: University of Southern Illinois Press.

Dewey, J. (1922/1988) The quest for certainty, In J. A. Boydston (Ed) *John Dewey: The Later Works, Vol. 4*, Carbondale: University of Southern Illinois Press.

Dewey, J. (1925/1981) Experience and nature, In J. A. Boydston (Ed) *John Dewey: The Later Works, Vol. 1*, Carbondale: University of Southern Illinois Press.

Dewey, J. (1928/1984) Essays, reviews, miscellany and "Impressions of Soviet Russia", In J. A. Boydston (Ed) *John Dewey: The Later Works, Vol. 3*, Carbondale: University of Southern Illinois Press.

Dewey, J. (1929/1988) The quest for certainty, In J. A. Boydston (Ed) *John Dewey: The Later Works, Vol. 4*, Carbondale: University of Southern Illinois Press.

Dewey, J. (1934/1987) *Art as experience*, In J. A. Boydston (Ed) *John Dewey: The Later Works, Vol. 10*, Carbondale: University of Southern Illinois Press.

Dewey, J. (1935/1987) Peirce's theory of quality, In J. A. Boydston (Ed) *John Dewey: The Later Works, Vol. 11*, Carbondale: University of Southern Illinois Press, 87-95.

Dewey, J. (1938/1997) *Experience and education,* New York: Touchstone.

Dewey, J. (1938/1991) Logic: The theory of enquiry, In J. A. Boydston (Ed) *John Dewey: The Later Works, Vol. 12*, Carbondale: University of Southern Illinois Press.

Dewey, J. (1939/1991) Experience knowledge and value: A rejoinder, In J. A. Boydston (Ed) *John Dewey: The Later Works, Vol. 14*, Carbondale: University of Southern Illinois Press, 3-90.

Dewey, J. and Bentley, A.F (1949/1991) Knowing and the Known, In J. A. Boydston (Ed.) *John Dewey: The Later Works* 1925–1953, *Vol. 16*, Carbondale, IL: Southern Illinois University Press.

Dicker, G. (2013) *Descartes: An analytical and historical introduction*, Oxford: Oxford University Press.

Dowling, F., Fitzgerald, H. and Flintoff, A. (2013) Narratives from the road to social justice in PETE: Teacher educator perspectives, *Sport Education and Society,* i-first article, available at: http://www.tandfonline.com/dx.doi.org/10.1080/13573322.2013.871249 [accessed: 3rd February, 2014].

Dyson, B. Casey, A. (2012) *Cooperative education in physical education: A research based approach*. Abingdon: Routledge.

Dyson, B., Griffin, L. and Hastie, P. (2004) Sport education, tactical games and cooperative learning: Theoretical and pedagogical considerations, *Quest*, 56, 226-240.

Elliott, J. (1991) Disconnecting knowledge and understanding from human values: a critique of National Curriculum development, *The Curriculum Journal*, 2(1), 19-31.

Engström, L. (2008) Who is Physically Active? Cultural capital and sports participation from adolescence to middle age: A 38-year follow-up study, *Physical Education and Sport Pedagogy*,13(4), 319–343.

Engeström, Y. (2006) Expansive learning: toward an activity-theoretical reconceptualization, In K. Illeris (Ed) *Contemporary theories of learning: Learning theorists in their own words*, Abingdon: Routledge, 53-73.

English Gymnastics (2006) *Key steps gymnastics*, Newport: English Gymnastics.

Ennis, C. and Chen, A. (1995) Teachers' value orientations in urban and rural school settings, *Research Quarterly for Exercise and Sport*, 66, 41-50.

Escartí, A., Gutiérrez, M., Pascual, C. and Llopis, R. (2010) Implementation of the personal and social responsibility model to improve self-efficacy during physical education classes for primary school children, *International Journal of Psychology and Psychological Therapy,* 10 (3), 387-402.

Evans, J. (2012) Physical education as porn!, *Physical Education and Sport Pedagogy,* i-first article, available at:

http://www.tandfonline.com/doi/abs/10.1080/17408989.2011.631002 [accessed: 7th July, 2014] .

Evans, J. and Davies, B. (2004) Sociology, the body and health in a risk society, In J. Evans, B. Davies and J. Wright (Eds) *Body knowledge and control: Studies in the sociology of physical education and health*, London: Routledge, 35–51.

Evans, J. and Davies, B. (2015) Neoliberal freedoms, privatisation and the future of physical education, *Sport, Education and Society*, 20 (1), 10-26.

Evans, J., Davies, B., and Rich, E. (2009) The body made flesh: Embodied learning and the corporeal device, *British Journal of Sociology of Education*, 30, 381-406.

Evans, J. and Davies, B. (2010) Family, class and embodiment: Why school physical education makes little difference to post-school participation patterns in physical activity, *International Journal of Qualitative Studies in Education*, 23(7), 765-784.

Evans, J. and Davies, B. (2014) Neoliberal freedoms, privatisation and the future of physical education, *Sport, Education and Society*, 20(1),10-26.

Evans, J. and Penney, D. (1995) The Politics of Pedagogy: Making a National Curriculum Physical Education, *Journal of Education Policy*, 10(1), 27-44.

Evans, J., Davies, B. and Rich, E. (2009) The body made flesh: embodied learning and the corporeal device, *British Journal of Sociology of Education*, 30(4), 391-406.

Evans, J., Rich, E., and Davies, B. (2008) Health Education or Weight Management in Schools? *Physical Education Matters* (Official Journal of the AfPE), 3(1), 28-33.

Everley, S. and Macfadyen, T. (2015) I like playing on my trampoline; it makes me feel alive: valuing physical activity: perceptions and meanings for children and implications for primary schools, *Education 3-13*, i-first article available at: http://www.tandfonline.com/doi/full/10.1080/03004279.2015.1069367
[accessed: 9th October, 2015].

Ergas, O. and Martin, C. (2014) On the justification of physical education: Body-based mindfulness and R.S. Peters' cognitive criteria, Paper Presented to the Philosophy of Education Society of Great Britain Annual Conference, New College, Oxford 28-30 March.

Escartí, A., Gutiérrez, M. Pascual, C. and Marín, D. (2010) Application of Hellison´s teaching personal and social responsibility model in physical education to improve self-efficacy for adolescents at risk of dropping-out of school, *The Spanish Journal of Psychology*, 13(2), 667-676.

Fernandez-Balboa, J-M. (Ed.) (1997) *Critical Postmodernism in Human Movement, Physical Education and Sport,* Albany: SUNY Press.

Fenstermacher, G. and Sanger, M. (1998) what is the significance of John Dewey's approach to the problem of knowledge? *The Elementary School Journal*, 98(5), 467-478.

Fitzgerald, H. (2005) Still feeling like a spare piece of luggage? Embodied experiences of (dis)ability in physical education and school sport, *Physical Education and Sport Pedagogy*, 10(1), 41–59.

Fitzpatrick, K. (2013) *Critical pedagogy, physical education and urban schooling*, New York: Peter Lang.

Fitzpatrick, K. and Russell, D. (2015) On being critical in health and physical education, *Physical Education and Sport Pedagogy*, 20(2),159-173.

Fiske, J. (1992) British Cultural Studies and Television, In R. Allen (Ed.) *Channels of Discourse, Reassembled,* London: Routledge, 292-293.

Flairs, J. (1968) The influence of Plato and Platonism on the development of physical education in Western culture, *Quest*, 11(1), 14-23.

Fletcher, T. and Mandigo, J. (2012) The primary schoolteacher and physical education: A review of research and implications for Irish physical education, *Irish Educational Studies,* 31(3), 363-376.

Flintoff, A. (2008) Targeting Mr average: participation, gender equity and school sport partnerships, *Sport, Education and Society*, 13(4), 393-411.

Flintoff, A., Foster, R. and Wystawnoha, S. (2011) Promoting and sustaining high quality physical education and school sport through school sport partnerships, *European Physical Education Review,* 17(3), 341-351.

Flyvbjerg, B. (2011) Case Study, In N. Denzin and Y. Lincoln (Eds) *The Sage Handbook of Qualitative Research* (4th edition), Thousand Oaks, CA: Sage Publications, p.301-316.

Furlong, A. and Cartmel, F. (1997) *Young People and Social Change*, Buckingham: Open University Press.

Gadamer, H.G. (1965/75) *Truth and method,* London: Sheed and Ward

Gale, K. (2007) Teacher education in the university: Working with policy, practice and Deleuze, *Teaching in Higher Education*, 12(4), 471-483.

Gallahue, D. L. and Ozmun, J. C. (2006) *Understanding motor development: Infants, children, adolescents and adults* (6th edition), Boston: McGraw-Hill.

Gard, M. (2010) *The end of the obesity epidemic,* New York: Routledge.

Gard, M. and Wright, J. (2001) Managing uncertainty: Obesity discourse and physical education in a risk society, *Studies in Philosophy and Education,* 20, 535-541.

Garrett, *R*. and A. *Wrench* (*2008*) *Connections pedagogy and alternative possibilities in primary physical education*, *Sport*, *Education and Society*, 13(1), 39-60.

Garrison, J. (1999) John Dewey's theory of practical reasoning, *Educational Philosophy and Theory*, 31(3), 291–312.

Garrison, J. (2001) An introduction to Dewey's theory of functional 'trans-action': an alternative paradigm for activity theory, *Mind, Culture and Activity*, 8(4), 275-296.

Garrison, J. and Watson, B. (2005) Food from thought, *Journal of Speculative Philosophy,* 19(4), 242-256.

Gerring, J. (2004) What is a case study and what is it good for? *American Political Science Review*, 98(2), 342-354.

Gibbons, S. and Humbert, L. (2008) What are middle-school girls looking for in physical education?, *Canadian Journal of Education*, 31(1), 167-186.

Giddens, A (1991) *Modernity and self-identity: Self and society in the late modern age*, Oxford: Polity Press.

Glass, R. and Putnam, J. (1988) Cooperative learning in teacher education: A case study in action in teacher education, *Association of Teacher Educators,* 10(4), 47-52.

Gobo, G. (2008) Re-conceptualising Generalisations: old issues in a new frame, In N. Denzin and Y. Lincoln (Eds) *The Sage Handbook of Qualitative Research* (2nd edition), Thousand Oaks, CA: Sage Publications, 193-213.

Goodyear, V., Casey, A. and Kirk, D. (2014) Hiding behind the camera: Social learning within cooperative learning model to engage girls in physical education, *Sport, Education and Society,* 19(7), 927-943.

Graber, K. (1995) The influence of teacher education on the programs on the beliefs of student teachers: General pedagogical knowledge, pedagogical content knowledge and teacher education course work, *Journal of Teaching in Physical Education* 14, 157-178.

Graber, K. (2001) Research on teaching in physical education, In V. Richardson (Ed.) *Handbook of research in teaching*, Washington, DC: American Educational Research Association, 491-591.

Gramsci, A. (2006) Hegemony, intellectuals and the state, In J. Storey (Ed) *Cultural Theory and Popular Culture: A Reader*, Edinburgh: Pearson/Prentice Hal l, 85-92.

Green, K. (1998) Philosophies, ideologies and the practices of physical education, *Sport, Education and Society*, 3(2), 125-143.

Green, K. (2000) Exploring the everyday 'philosophies' of physical education teachers from a sociological perspective, *Sport, Education and Society*, 5(2), 109-129.

Green, K. (2002) Physical education teachers in theory figurations: A sociological analysis of everyday 'philosophies', *Sport, Education and Society*, 7(1), 65-83.

Green. K. (2014) Mission impossible? Reflecting upon the relationship between physical education, youth sport and lifelong participation, *Sport, Education and Society*, 19(2), 357-375.

Griffin, L., Dodds, P. and Rovegno, I. (1996) Pedagogical content knowledge for teachers. Integrate everything you know to help students learn, *Journal of Physical Education Recreation and Dance*, 67(9), 58-61.

Griggs, G. (2010) For sale - primary physical education £20 per hour or nearest offer, *Education 3-13,* 38(1), 39-46.

Griggs, G. (2015) *Understanding Primary Physical Education*, Abingdon: Routledge.

Griggs, G. and Ward, G. (2012) Physical Education in the UK: disconnections and connections, *Curriculum Journal*, 23(2), 207-229.

Griggs, G. and Ward, G. (2013) The London 2012 Legacy for Primary Physical Education: Policy By the Way*, Sociological Research Journal Online,* available at: http://www.socresonline.org.uk/18/3/13.html [accessed: 8th July, 2014].

Giroux, H. (2003) Public Pedagogy and the Politics of Resistance: Notes on a critical theory of educational struggle, *Educational Philosophy and Theory,* 35(1), 5-16.

Grossman, P. (1989) A study in contrast: Sources of pedagogical content knowledge for secondary English, *Journal of Teacher Education, 40,* 24-31.

Gove, M. (2014) https://www.gov.uk/government/speeches/michael-gove-an-education-system-which-works-for-every-child [accessed: 7th July, 2014].

Haerens, L. Kirk, D. and Cardon, G. (2011) Towards the development of a pedagogical model for health-based physical education, *Quest*, 63, 321-338.

Hager, P. (2005) Philosophical accounts of learning, *Educational Philosophy and Theory*, 37(5), 649–666.

Hager, P. and Hodkinson, P. (2009) Moving beyond the metaphor of transfer of learning, *British Educational Research Journal,* 35(4), 619-638.

Hagger, M., Chatzisarantis, N., Culverhouse, T. and Biddle, S. (2003) The processes by which perceived autonomy support in physical education promotes leisure-time physical activity intentions and behaviour: A trans-contextual model, *Journal of Educational Psychology,* 95(4), 784–795.

Hammersley, M. (1992) *What's Wrong With Ethnography? Methodological Explorations,* London: Routledge.

Harcourt, D. and Quennerstedt, A. (2014) Ethical Guardrails When Children Participate in Research: Risk and Practice in Sweden and Australia, SAGE Open, 4(3), 1-8, available at: http://dx.doi.org/10.1177/2158244014543782 [accessed: 4th July, 2015].

Harris, J., Cale, L. and Musson, H. (2012) The predicament of primary physical education: a consequence of 'insufficient' ITT and 'ineffective' CPD? *Physical Education and Sport Pedagogy*, 17(4), 361-381.

Harris, M., Burns, F., McGuinness, M., Heslin, J. and Murphy, N. (2006) Influence of a health education intervention on physical activity and screen time in primary school children: Switch off-Get Active, *Journal of Science and Medicine in Sport*, 9, 388-394.

Harvey, S., Cushion, C. and Sammon, P. (2014) Dilemmas faced by pre-service teachers when learning about and implementing a game-centred approach *European Physical Education Review,* i-first article, available at: http:/10.1177/1356336X14560773–19 [accessed 12th March, 2014].

Hastie, P. (2010) *Student Designed Games: Strategies for promoting creativity, co-operation and skill development*, Champaign: Human Kinetics.

Hastie, P. Curtner-Smith, M. (2006) Influence of a hybrid Sport Education—Teaching Games for Understanding unit on one teacher and his students, *Physical Education and Sport Pedagogy*, 11(1), 1-27.

Hastie, P. and Siedentop, D. (2006) The classroom ecology paradigm, In D. Kirk, D. Macdonald and M, O'Sullivan (Eds) *The Handbook of Physical Education,* London: Sage Publications, 214-225.

Hay, P. (2006) Assessment for learning in physical education, In D. Kirk, D. Macdonald and M. O' Sullivan (Eds) *The handbook of physical education*, London: Sage Publications, 312-325.

Heidegger, M. (1927/1962) *Being and time* (J. Macquarrie and E. Robinson Translators.), London: SCM Press.

Hirst. P. (1974) *Knowledge and the curriculum*, London: Routledge and Kegan Paul.

Hodges, G., Pamela Hodges-Kulinnaa, P. and Kloeppelb, T. (2015) Fitness for life primary: stakeholders' perceptions, *Physical Education and Sport Pedagogy*, 20(3), 299-313.

Hodkinson, P., Biesta, G. and James, D. (2007) Understanding learning cultures, *Educational Review,* 59(4): 415–27.

Holder, J. (1995) An epistemological foundation for thinking: A Deweyan approach, In J. Garrison (Ed) *The new scholarship on Dewey*, Dordrecht, the Netherlands: Kluwer Academic Publishers, 7-24.

Holland, J. and Thomson, R. (1999) *Respect—youth values: identity, diversity and social change.* ESRC *Children 5-16 Research Programme Briefing*, London: ESRC.

Hopper, T. (2010) Complexity thinking: Creative dance creating conditions for student teachers to learn how to teach, *PHENex* 2(1), 1-20.

Houlihan, B. and Green, M. (2006) The changing status of school sport and physical education: Explaining policy change, *Sport, Education and Society*, 11(1), 73-92.

HM Government (2012) http://www.number10.gov.uk/news/competitive-sport-for-children-at-the-heart-of-olympics-legacy [accessed: 19th November, 2012].

Hunter, L. (2004) Bourdieu and the social space of the PE class: Reproduction of Doxa through practice, *Sport, Education and Society*, 9(2), 175–92.

Illeris, K. (2007) *How we learn: Learning and non-learning in school and beyond*, Abingdon: Routledge.

Jakobson, B. and Wickman, P. (2008) the roles of aesthetic experience in elementary school science, *Research in Science Education*, 38(1), 45-65.

Jarvis, P. (2006) Human learning: T*owards a comprehensive theory of learning,* Abingdon: Routledge.

Jess, M. (2010) Becoming an effective primary school teacher. In: Armour, K. (Ed) *Sport Pedagogy: An introduction for teaching and coaching,* London: Pearson, 271-186.

Jess, M., Atencio, M. and Thorburn, M. (2011) Complexity theory: Supporting curriculum and pedagogy developments in Scottish physical education, *Sport, Education and Society*, 16(2), 179-199.

Jess, M., Keay, J. and Carse, N. (2014) Primary physical education: a complex learning journey for children and teachers, *Sport, Education and Society*, i-first article, available at: http://dx.doi.org/10.1080/13573322.2014.97914

Jess, M. and McEvilly, N. (2013) Traditional and contemporary approaches to career-long professional learning: a primary physical education journey in Scotland, *Education 3-13, 43(3), 2*25-237.

Johnson, M. (2010) Cognitive science and Dewey's theory of mind, though and language, In M. Cochran (Ed.) *The Cambridge companion to Dewey*, Cambridge: Cambridge University Press, 123-144.

Johnson-Laird, P. and Khemlani, S. (2014) Toward an unified theory of reasoning, In *The psychology of learning and motivation: Volume 69*, Oxford: Elsivier Academic Press, 1-42.

Jones, L. and Green, K. (2015): Who teaches primary physical education? Change and transformation through the eyes of subject leaders, *Sport, Education and Society,* i-first article, available at: http://www.tandfonline.com/doi/full/10.1080/13573322.2015.1061987 [accessed: 14th October 2015].

Keen, S. (1970) *To a dancing with God,* New York: Harper and Row.

Keetch, K and Lee, T. (2007) the effect of self-regulated and experimenter-imposed practice schedules on motor learning for tasks of varying difficulty, *Research Quarterly for Exercise and Sport*, 78(5), 476-486.

Kinchin, G. (2006) Sport education a review of research, In D. Kirk, D. Macdonald and M, O'Sullivan (Eds) *The Handbook of Physical Education,* London: Sage Publications, 596-609.

Kirk, D. (1992) *Defining physical education: The social construction of a school subject in postwar Britain.* Abingdon: Routledge.

Kirk, D. (1999) Physical culture, physical education and relational analysis, *Sport Education and Society*, 4(1), 63-73.

Kirk, D. (2006) Sport education, critical pedagogy and learning theory: Toward and intrinsic justification for physical education and youth sport, *Quest*, 58(3), 255-264.

Kirk, D. (2010) *Physical Education Futures,* London: Routledge.

Kirk, D. (2013). Educational value and models-based practice in physical Education, *Educational Philosophy and Theory*, 45, 973–986.

Kirk, D. Brooker, R. and Braiuka, S. (2000) Teaching games for understanding: A situated perspective on student learning. Paper presented at the annual meeting of the American Educational research association, New Orleans, LA.

Kirk, D. and Haerens, L. (2014) New research programmes in physical education and sport pedagogy, *Sport, Education and Society*, i-first article, available at: http://dx.doi.org/10.1080/13573322.2013.874996.

Kirk, D. and Kinchin, G. (2003) Situated learning as a theoretical framework for sport education, *European Physical Education Review*, 9 (3), 221-236.

Kirk, D. and Macdonald, D. (1998) Situated learning in physical education, *Journal of Teaching in Physical Education*, 17(3), 376-387.

Kirk, D. Macdonald, D. and O'Sullivan, M. (Eds) (2006) *The handbook of physical education*, London: Sage Publications.

Kirk, D. and MacPhail, A. (2002) Teaching games for understanding and situated learning: Rethinking the model, *Journal of Teaching Physical Education,* 21, 177-192.

Klaar, S. and Öhman, J. (2012) Action with friction: a transactional approach to toddlers' physical meaning making of natural phenomena and processes in preschool, *European Early Childhood Education Research Journal,* 20(3), 439-454.

Klaar, S. and Öhman, J. (2014) Children's meaning-making of nature in an outdoor-oriented and democratic Swedish preschool practice, *European Early Childhood Education Research Journal*, 22(2), 229-253.

Kolb, D. (1984) *Experiential learning: Experience as the source of learning and development*, New Jersey: Prentice-Hall.

Krefting, L. (1991) Rigor in qualitative research: The assessment of trustworthiness, *American Journal of Occupational Therapy*, 4, 214–222.

Kretchmar, R. (1995) T.D. Wood: On chairs and education, *The Journal of Physical education, Recreation and Dance*, 66, 12-15.

Kretchmar, R. (2005) *Practical philosophy of sport and physical education activity* (2nd edition) Champaign, IL: Human Kinetics.

Laker, A. (2001) Developing personal, social and moral education through physical education: A practical guide for teachers**,** Abingdon: Routledge

Lamb, P. and Priyadharshini, E. (2015) The conundrum of C/cheerleading, *Sport, Education and Society,* 20(7), 889-907.

Lave, J. and Wenger, E. (1991) S*ituated learning: Legitimate peripheral participation*, Cambridge: Cambridge University Press.

Lavin, J., Mackinney, R. and Swindlehurst, G. (2013) The national curriculum for physical education key stages 1 and 2: No play, no health, no creativity no problem-solving, no progress? *Physical Education Matters*, 8(3), 22-25.

Lawson, H. (1986) Occupational socialisation and the design of teacher education programs, *Journal of Teaching in Physical Education*, 5(2), 107-116.

Larsson, H. and Karlefors, I. (2015) Physical education cultures in Sweden: Fitness, sports, dancing … learning? *Sport, Education and Society*, 20(5), 573-587.

Larsson, H. and Quennerstedt, M. (2012) Understanding movement: A sociocultural approach to exploring moving humans, *Quest*, 64, 283–298.

Larsson, H., Quennerstedt, H. and Öhman, M. (2014) Heterotopias in physical education: towards a queer pedagogy?, *Gender and Education*, 26(2), 135-150.

Larsson, S. (1998) On Quality in Qualitative Studies, Proceedings from 1st International Workshop: *Biographical research in Social and Educational Sciences*, Institute for Applied Biographical and Lifeworld Research, University of Bremen, 5 - 6 October 1998.

Lederman, N., Gess-Newsome, J. and Latz, M.(1994) The nature and development of preservice science teachers' conceptions of subject matter and pedagogy, *Journal of Research in Science Teaching*, 31(2), 129–146.

Lee, E. Brown, M., Luft, J. and Roehring, G. (2007) Assessing beginning science teachers' PCK: Pilot year results, *Science and Mathematics*, 107(2), 52-60.

Lidar, M., Lundquist, E. and Östman, L. (2006) Teaching and learning in the science classroom, *science Education,* 90(1), 148-163.

Lincoln, Y., Lynham, S. and Gubba, E. (2011) Paradigmatic controversies, contradictions and emerging confluences revisited, In N. Denzin and Y. Lincoln (Eds) *The Sage Handbook of Qualitative Research* (4th edition), Thousand Oaks, CA: Sage Publications, p.97-129.

Light, R. (2008) Complex learning theory - its epistemology and its assumptions about learning: Implications for physical education, *Journal of Teaching in Physical Education*, 27(1), 21-37.

Light, R. (2011) Opening up learning theory to social theory in research on sport and physical education through a focus on practice, *Physical Education and Sport Pedagogy*, 16(4), 369-382.

Light, R., and Fawns, R. (2003) Knowing the game: Integrating speech and action through TGfU, *Quest*, 55, 161-176.

Light, R. and Kentel, J. A. (2013) Mushin: Learning in technique-intensive sport as uniting mind and body through complex learning theory. *Physical Education and Sport Pedagogy*, available at: http://www.tandfonline.com/doi/full/10.1080/17408989.2013.868873 [accessed, 2nd October, 2015].

London County Council (1962) *Educational gymnastics: A guide for teachers*, London: W.F. Houghton.

Loughran, J., Mulhall, P. and Berry, A. (2004) In search of pedagogical content knowledge in science: Developing ways of articulating and documenting professional practice, J*ournal of Researching Science Teaching*, 41(4), 370–391.

Lubbe. H. (1988) Mencshen im Jahr 2000. Rahmenbedinggungen fur die kunftige Entwicklung des Sports, In K-H. Giesler, O. Grupe and K. Heinmann (Hrsg.) *Dokumentation des Kongresses 'Menschen im Sport 2000'*. Schorndorf: Hofmann, 32-43.

Lunenberg, M. and Korthagen, F. (2009) Experience, theory and practical wisdom in teaching and teacher education, *Teachers and Teaching*, 15(2), 225-240.

Lyotard, J.-F. (1984) *The postmodern condition,* Minneapolis, MN: University of Minnesota Press.

Mackintosh, C. and Liddle, J. (2014) PE and school sports development governance in England: Big Society, autonomy and decentralisation in new network relationships, *Education 3-13,* i-first article, available at: http://www.tandfonline.com/doi/abs/1080/03004279.2013.845237 [accessed: 7th July, 2014].

MacPhail, A. and Kinchin, G. (2004) The use of drawings as an evaluative tool: students' experiences of sport education, *Physical Education and Sport Pedagogy*, 9(1), 87-108.

MacPhail, A., Kirk, D. and Griffin, L. (2008) Throwing and catching as relational skills in game play: situated learning in a modified game unit, *Journal of Teaching in Physical Education,* 27, 100-115.

MacPhail, A., Kirk, D. and Kinchin, G. (2004). Sport education: promoting team affiliation through physical education, *Journal of Teaching Physical Education*, 23, 106-122.

Maivorsdotter, N. and Wickman, P. (2011) Skating in life context: examining the significance of aesthetic experience in sport using practical epistemology analysis, *Sport education and Society*, 16(5), 613-628.

Maivorsdotter, N. and Quennerstedt, M. (2012) The act of running: A practical epistemological analysis of aesthetic experience in sport, *Qualitative Research in sport, Exercise and Health*, 4(3), 362-381.

Malterud, K. (2001) Qualitative research: Standards, challenges, and guidelines, *The Lancet*, 358(9280), 483–488.

Mangan, J.A. (1981) *Athleticism in the Victorian and Edwardian public school*, Cambridge: Cambridge University Press.

Marshall, J. Hardman, K (2000) The state and status of Physical Education in schools in an international context, *European Physical Education Review*, 6(4), 203-229.

Marcon, D., Graça, A. and Nascimento, J. (2012) Analysis of the pedagogical knowledge of prospective physical education teachers, *Kinesiology*, 44(2), 113-122.

Mason, J. (1996) *Qualitative Researching,* London: Sage Publications.

Masters, R. (2000) Theoretical aspects of implicit learning in sports, *International Journal of Sport Psychology,* 31 530-541.

Maton, K. (2011) Segmentalism: the problem of building knowledge and creating knowers. In D. Frandji and P. Vitale (Eds) *Knowledge, pedagogy and society: International perspectives on Basil Bernstein's sociology of education*, Abingdon: Routledge, 126-140.

Mauldon, E. and Redfern, H. (1969) *Games teaching: A new approach for the primary school*, London: MacDonald and Evans.

Mauthner, N. and Doucet, A. (2003) Reflexive Accounts and Accounts of Reflexivity in Qualitative Data Analysis, *Sociology,* 37(3), 413-431.

McCaughtry, N., (2004) The emotional dimensions of a teacher's pedagogical content knowledge: Influence on content, curriculum and pedagogy, *Journal of Teaching in Physical Education*, 23, 30-47.

McCaughtry, N., Sofo, S., Rovegno, I and Curtner-Smith, M. (2004) Learning to teach sport education: Misunderstandings, pedagogical difficulties and residence, *Journal of Teaching in Physical Education*, 23(1), 30-47.

McEvilly, N. (2015) Investigating the place and meaning of 'physical education' to preschool children: methodological lessons from a research study, *Sport, Education and Society*, 20(3), 340-360.

McEvilly, N., Verheula, M. and Atencio, M. (2015) Physical education at preschools: the meaning of 'physical education' to practitioners at three preschool settings in Scotland, *Physical Education and Sport Pedagogy*, 20(2), 117-130.

McPherson, S. and Thomas, J. (1989) Relation of knowledge and performance in boy's tennis: age and expertise, *Journal of Experimental Child Psychology*, 48, 190-211.

Mead, G. (1934/1964) Mind, self and society. In A. Reck (Ed) *Selected Writings: George Herbert Mead*, Illinois: University of Chicago Press

Meier, K.V. (1980) An affair of flutes: An appreciation of play, *Journal of the Philosophy of Sport, VII, 11-30.*

Meier, K.V. (1988) Triad trickery: Playing with sports and games*, Journal of the Philosophy of Spor*t*,* 15(1) 11-30.

Mechikoff, I. and Estes, S. (2006) *A history and philosophy of sport and physical education: From ancient civilizations to the modern world* (4th edition), New York: McGraw-Hill.

Metzler, M. (Ed) (2000) The physical education teacher education assessment project, *Journal of Teaching in Physical Education* (special edition), 19(4), 293-309.

Metzler, M.W. (2011) *Instructional Models for Physical Education* (3rd edition), Scottsdale, AZ: Holcomb Hathaway.

Metzler, M., Lund, J. and Gurvitch, R. (2008) Adoption of instructional innovation across teachers' career stages, *Journal of Teaching in Physical Education*, 27(4), 457-465.

Miettinen, R. (2000) The concept of experiential learning and John Dewey's theory of reflective thought and action, *International Journal of Lifelong Education*, 19(1), 54-72.

Miller, J., and Glassner, B. (2011) The 'inside' and the 'outside': Finding realities in interviews. In D. Silverman (Ed), *Qualitative Research*, London: Sage Publications, 131-148.

Mooney, A. and Hickey, C. (2012) Negotiating masculine hegemony: female physical educators in an all-boys' school, *Asia-Pacific Journal of Health, Sport and Physical Education*, 3(3), 199-212.

Moore, A. (2012) *Teaching and learning: Pedagogy, curriculum and culture* (2nd edition), Abingdon: Routledge.

Moore, R. (2011) *Towards a sociology of truth, London: Continuum.*

Morgan, W. (2006) Philosophy and physical education. In D. Kirk, D. Macdonald and M, O'Sullivan (Eds) *The Handbook of Physical Education,* London: Sage Publications, 97-108.

Morgan, P. and Bourke, M. (2005) An investigation of preservice and primary school teacher perspectives of PE teaching confidence and PE teacher education, *ACHPER Healthy Lifestyles Journal,* 52(1), 7–13.

Morgan, P. and Bourke, S. (2008) Non-specialists teachers' confidence to teaching physical education: the nature and influence of personal school experiences in physical education, *Physical Education and Sport Pedagogy* 13(1), 1-29.

Morgan, P. and Hansen, V. (2008) Classroom teachers' perceptions of the impact of barriers to teaching PE on the quality of PE programs delivered in primary schools, *Research Quarterly for Exercise and Sport,* 79(4), 506-517.

Mosston, M. and Ashworth, S. (2008) *Teaching physical education,* On-line edition available at: http://www.spectrumofteachingstyles.org/pdfs/ebook/Teaching_Physical_Edu_1st_Online_old.pdf [accessed: 4th October, 2015].

Murdoch, E. (1990) Physical education and sport: The interface. In N. Armstrong (Ed) *New Directions in Physical Education*, Champaign, Il: Human Kinetics, 63–78.

Myhill, D., Jones, S.M., Watson, A. (2013) Grammar matters: How teachers' grammatical knowledge impacts on the teaching of writing, *Teaching and Teacher Education*, 36, 77-91.

National College for Teaching and Leadership (2015) 200 specialist primary PE teachers to be in place by December 2015, available at: https://www.gov.uk/government/news/200-specialist-primary-pe-teachers-to-be-in-place-by-december-2015 [accessed 23rd September, 2015].

NCC (National Curriculum Council) (1992) *Non Statutory Guidance for Physical Education.* London: HMSO.

Newell, K.M. (1986) Constraints on the development of coordination. In M.G. Wade and H.T.A. Whiting (Eds) *Motor development in children: Aspects of coordination and control*, Dordrecht The Netherlands: Martinus Nijhoff, 341–60.

Ntoumanis, N. (2001) A self-determination approach to the understanding of motivation in physical education, *British Journal of Educational Psychology* (2001), 71, 225-242.

Nyberg, G. and Larsson, H. (2014) Exploring 'what' to learn in physical education, *Physical Education and Sport Pedagogy*, 19(2), 123-135.

O'Connor, J. and Alfrey, L. (2015) Activating the curriculum: a socio-ecological action research frame for health and physical education, *Sport, Education and Society*, 20(6), 691-709.

O'Connor, J. Alfrey, A. and Payne, P. (2012) Beyond games and sports: A socio-ecological approach to physical education, *Sport, Education and Society*, 17(3), 365-380.

O' Leary, N. (2014) Learning informally to use teaching games for understanding: The experiences of a recently qualified teacher, *European Physical Education Review,* 20(3) 367-384.

OFSTED (Office for Standards in Education) (2002) *Physical education in primary schools*. London: TSO.

OFSTED (Office for Standards in Education) (2005) *Physical education in primary schools*. London: TSO.

OFSTED (Office for Standards in Education) (2009) *Physical education in primary schools (2005-2008)*. London: TSO.

OFSTED (Office for Standards in Education) (2012) *The pupil premium: How schools are spending the successfully to maximise achievement*, Manchester: OFSTED.

OFSTED (Office for Standards in Education) (2015) School inspection handbook: Handbook for inspecting schools in England under section 5 of the Education Act, available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/458866/School_inspection_handbook_section_5_from_September_2015.pdf [accessed 7th October, 2015].

Öhman, M., and Quennerstedt, M. (2012) Observational Studies, In K. Armour and D. Macdonald (Eds) *Research Methods in Physical Education and Youth Sports*, London: Routledge, 189–203.

Öhman, J. and Östman, L. (2007) Continuity and change in moral meaning-making—a transactional approach, *Journal of Moral Education*, 36(2), 151-168.

O'Loughlin, M. (2006) *Embodiment and education*: *Exploring creatural existence*, Dordrecht: Springer.

Oslin, J. and Mitchell, S. (2006) Game-centred approaches to teaching physical education. In D. Kirk, D. Macdonald and M, O'Sullivan (Eds) *The handbook of physical education,* London: Sage Publications, 625-251.

Östman, L. and Öhman, J. (2010) A transactional approach to learning, Paper presented at John Dewey Society, AERA Annual Meeting in Denver, Colorado, April 30–May 4.

Oxford Cambridge and RSA (2015) *Level 3 Advanced GCE in Physical Education (H555) Specification,* available at: *http://www.ocr.org.uk/Images/234833-specification-draft-a-level-gce-physical-education-h555.pdf* [accessed: 7th October, 2015].

Packer, M and Goicoechea, J. (2000) Sociocultural and Constructivist Theories of Learning: Ontology, Not Just Epistemology, *Educational Psychologist*, 35(4), 227-241.

Papastergiou, M. (2009) Exploring the potential of computer and video games for health and physical education: A literature review, *Computers and Education,* 53(3), 603-622.

Paul, J. (1996) Centuries of change: Movement's many faces, *Quest,* 48(4) 531-545.

Park, S. and Oliver, J. (2007) Revisiting the conceptualisation of pedagogical content knowledge (PCK): PCK as a conceptual tool to understand teachers as professionals, *Researching Science Education*, 38, 261-284.

Parry, S.J. (1998) Reid on knowledge and justification in Physical Education, *European Physical Education Review*, 4(1), 70 - 74.

Penny, D. (2006) Curriculum change and construction, In D, Kirk, D. Macdonald and M. O'Sullivan (Eds) *The handbook of physical education*, London: Sage Publications, 565-579.

Penney, D. (2008) Playing a political game and play for position: policy and curriculum development in health and PE, *European Physical Education Review,* 4(1), 33-49.

Penney, D. (2013) Points of tension and possibility: boundaries in and of physical education, *Sport, Education and Society*, 18(1), 6-20.

Peräkylä, A. (2011) Validity in research on naturally occurring social interaction. In D. Silverman (Ed.) *Qualitative Research* (3rd edition), London: Sage Publications, 356-382.

Peters, R. S. (2010) Education and the educated man, In R. Dearden, P. Hirst and R. Peters (Eds) *Education and the development of reason,* London: Routledge & Kegan Paul, 3–18.

Peters, R.S. (1977) John Dewey's philosophy of education. In R. Peters (Ed) *John Dewey Reconsidered*, London: Routledge Kegan Paul, 102-123.

Peters, R.S. (1996) *Ethics and Education,* London: Allen and Unwin.

Peirce, C. (1934/1903) Lectures on pragmatism, In C. Hartshone and P. Weiss, (Eds) *Collected papers of Charles Sanders Pierce, Vol. V: Pragmatism and pragaticism,* Cambridge, MA: Harvard University Press.

Placek, J., Griffin, L., Dodds, P., Raymond, C. Tremino, F. and Pinkman, K. (1995) Teaching recruits' physical education backgrounds and beliefs about purposes for their subject matter, *Journal of Teaching in Physical Education*, 14(4) 246-261.

Ponterotto, J. G. (2006) Brief note on the origins, evolution, and meaning of the qualitative research concept thick description, *The Qualitative Report*, 11(3), 538-549.

Pope, C. (2011) The physical education and sport interface: Models, maxims and maelstrom, *European Physical Education Review,* 17(3), 273-285.

Pope, C. (2015) The jagged edge and changing shape of health and physical education in Aotearoa New Zealand, Physical Education and Sport Pedagogy, 19(5), 500-512.

Potter, J. (2002) Two kinds of natural, *Discourse Studies*, 4(4), 539-542.

Prout, A. (2000) Children's participation: Control and self-realisation in British late modernity, *Children and Society*, 14, 304-315.

Pühse, U. and Gerber, M. (Eds) (2005) *International comparison of physical education: Concepts, problems and prospects*, Oxford: Meyer and Meyer.

Quay, J. (2014) *Education, experience and existence: Engaging Dewey, Peirce and Heidegger*, Abingdon: Routledge.

Quay, J. and Stolz, S. (2014) Game as context in physical education: A Deweyan philosophical perspective, In R. Light, J. Quay, S. Harvey and A. Mooney (Eds) *Contemporary Developments in Games Teaching* (15–28), London and New York: Routledge (15-28).

Quennerstedt, M. (2008a) Studying the institutional dimension of meaning making: a way to analyse subject content in physical education, *Journal of Teaching Physical Education,* 27(3), 434-44.

Quennerstedt, M. (2008b) Exploring the relationship between physical activity and health – a salutogenic approach to physical education, *Sport Education and Society*, 13(3), 267-283.

Quennerstedt, M. (2010) Warning: physical education can seriously harm your health: but it all depends on your health perspective! In S. Brown (Ed) *Issues and controversies in physical education policy, power, and pedagogy,* Auckland: Pearson, 46-56.

Quennerstedt, M. (2013a) PE on YouTube: Investigating participation in physical education practice, *Physical education and Sport Pedagogy*, 18(1), 42-59.

Quennerstedt, M. (2013b) Practical epistemologies in physical education practice, *Sport Education and Society*, 18(3), 311-333.

Quennerstedt, M., Almqvist, J. and Öhman, M. (2011) Keep your eye on the ball: investigating artefacts-in-use in physical education, *Interchange: A quarterly Review of Education*, 42(3), 287-305.

Quennerstedt, M., Annerstedt, C, Barker, D., Karlefors, I., Larsson, H., Redelius, K. and Öhman, M. (2014) What did they learn in school today? A method for exploring aspects of learning in physical education, *European Physical Education Review*, 20(2), 282-302.

Quennerstedt, M., Burrows, L. and Maivorsdotter, N. (2010) From teaching young people to be healthy to learning health, *Utbildning and Demokrati*, 19(2), 97–112.

Quennerstedt, M. and Larsson, H. (2015) Learning movement cultures in physical education practice, *Sport, Education and Society*, i-first article, available at: http://dx.doi.org/10.1080/13573322.2014.994490 [accessed: 12th February, 2015].

Quennerstedt, M., Öhman, M. and Armour, K. (2014) Sport and exercise pedagogy and questions about learning, *Sport, Education and Society,* i-first article, available at: http://dx.doi.org/10.1080/13573322.2013.847824 [accessed: 3rd July, 2014].

Quennerstedt, M., Öhman, J. and Öhman, M. (2011) Investigating learning in physical education: a transactional approach, *Sport Education and Society*, 16(2), 159-177

Raab, M. (2007) Think SMART, not hard – a review of teaching decision making in sport from an ecological rationality perspective, *Physical Education and Sport Pedagogy*, 12(1), 1-22.

Rapley, T. (2011) Some pragmatics of qualitative data analysis, In D. Silverman (Ed) *Qualitative Research,* London: Sage Publications, 273-290.

Reid, A. (1996) The concept of physical education in current curriculum and assessment policy in Scotland, *European Physical Education Review*, 2(1), 7-18.

Reid, A. (1997) Value pluralism and physical education, *European Physical Education Review,* 3(1), 6-20.

Renshaw, I., Chow, J.Y., Davids, K. and Hammond, J.A (2010) Constraints-led perspective to understanding skill acquisition and game play: a basis for integration of motor learning theory and physical education praxis? *Physical Education and Sport Pedagogy,* 15(2), 117-137.

Renshaw, I., Araújo, D., Button, C.. Yi Chow, J.Y., Davids, K. and Moy, B. (2015) Why the Constraints-Led approach is not Teaching Games for Understanding: A clarification, *Physical Education and Sport Pedagogy*, i-first article, available at: http://dx.doi.org/10.1080/17408989.2015.1095870 [accessed: 6th November, 2015]

Rescher, N. (1995) *Pragmatism*, available at: http://www.xrefer.com/entry/553242 [accessed: 6th December 2014].

Richardson, L. (2000) Writing: A method of inquiry, In N. K. Denzin & Y. S. Lincoln (Eds) *Handbook of qualitative research* (2nd edition), Thousand Oaks, CA: Sage Publications, 923-948.

Rink, J. (1999) *Instruction from a learning perspective: A discussion*, London: Falmer Press.

Rink, J. (2001) Investigating the assumptions of pedagogy, *Journal of Teaching in Physical Education*, 20(1), 112-128.

Rhodes, C. (2009) After reflexivity: Ethics and the writing of organization studies, *Organization Studies*, 30(6): 654-672.

Robson, S. (2011) Producing and using video data in the early years: Ethical questions and practical consequences in research with young children, *Children and Society,* 25, 179-189.

Rogoff, B. (1995) Observing sociocultural activity on three planes: Participatory appropriation, guided participation, and apprenticeship, In J. Wertsch, P. Del Rio, and T. Alvarez (Eds) *Sociocultural studies of mind*, Cambridge: Cambridge University Press, 139–164.

Rønholt, H. (2002) 'It's only the sissies…' Analysis of teaching and the learning processes in physical education: A contribution to the hidden curriculum, *Sport Education and Society*, 7, 25-36.

Rovegno, I. (1994) Teaching within a curricular zone of safety: School culture and the situated nature of student teachers' pedagogical content knowledge, *Research Quarterly for Exercise and Sport*, 65(3), 269–79.

Rovegno, I. (1995) Theoretical perspectives on knowledge and learning and a student teachers' pedagogical content knowledge of dividing and sequencing subject matter, *Journal of Teaching Physical Education*, 14, 284-304.

Rovegno, I. (2003) Teachers' knowledge construction, In S. Silverman and C. Ennis (Eds) *Student learning in physical education: Applying research to enhance instruction*, Champaign, Il: Human Kinetics, 295-310.

Rovegno, I. (2006) Situated perspectives on learning, In D. Macdonald and M. O'Sullivan (Eds) *The handbook of physical education*, London: Sage Publications, 262-274.

Rovegno, I., Chen, W. and Todorovich, J. (2003) Accomplished teachers' pedagogical content knowledge of teaching dribbling to third grade children, *Journal of Teaching in Physical Education*, 28, 75-89.

Rovegno, I. and Dolly, J. (2006) Constructivist perspectives on learning. In D, Kirk, D. Macdonald and M. O'Sullivan (Eds) *The handbook of physical education*, London: Sage Publications, 242-261.

Rovegno, I., Nevett, M., Brock and Babiarz, M. (2001) Learning and teaching invasion-game tactics in 4th grade: A descriptive study from situated and constraints theoretical perspectives, *Journal of Teaching Physical education* [Monograph], 20, 370-388

Rudsberg, K and Öhman, J. (2010) Pluralism in practice: Experiences from Swedish evaluation, school development and research, *Environmental education Research*, 16(1), 115-131.

Ryle, G. (1949/2009) *The concept of mind*, New York: Routledge.

Sebren, M. (1995) Preservice teachers' reflections and knowledge development in a field based elementary physical education methods course, *Journal of Teaching in Physical Education*, 14, 262-283.

Sfard, A. (1988) On two metaphors for learning and the dangers of choosing just one, *Educational Researcher*, 27(2), 4-13.

Sandford, R.A., Armour, K.M. and Warmington, P.C. (2006) Re-engaging disaffected youth through physical activity programmes, *British Educational Research Journal*, 32 (2), 251–271.

Säljö, R. (1998) Learning inside and outside: schools discursive practices and sociocultural dynamics, In D. Roberts and L. Östman (Eds) *Problems of meaning in science curriculum*, New York and London: Teachers college Press, 39-53.

Sandford, R. and Rich, E. (2006) Learners and popular culture. In Kirk, D. Macdonald, D. and O'Sullivan, M. (Eds) *The handbook of physical education*, London: Sage Publications, 275-291.

Schiro, M. (2008) *Curriculum theory: Conflicting visions and enduring concerns*, Thousand Oaks, CA: Sage Publications.

Schiro, M. (1992) Educators' perceptions of the change in their curriculum belief systems over time, *Journal of curriculum and supervision*, 7(3), 250-286.

Schon, D.A. (1983) *The reflective practitioner*, New York: Basic books

Schon, D.A. (1987) *Educating the reflective practitioner*, San Francisco: Jossey-Bass.

Seale, C. (1999) Quality in Qualitative Research, *Qualitative Inquiry*, 5(4), 465-478.

Semetsky, I. (2003) Deleuze's new image of thought, or Dewey revisited, *Educational Philosophy and Theory*, 35(1), 17–29.

Sewell, W. (1999) *What is culture?,* In V. E. Bonnell and L. Hunt (Eds) *New directions in the study of society and culture: Beyond the cultural turn*, Berkley, Los Angeles: University of California Press, 35-61.

Sfard, A. (1998) On two metaphors for learning and the dangers of choosing just one, *Educational Researcher,* 21, 368-377.

Sicilia-Camachoa, A. and Brown, D. (2008) Revisiting the paradigm shift from the versus to the non-versus notion of Mosston's Spectrum of teaching styles in physical education pedagogy: a critical pedagogical perspective, *Physical Education and Sport Pedagogy*, 13(1), 85–108.

Siedentop, D. (1994) *Sport Education*, Champaign, Il: Human Kinetics.

Siedentop, D. (2002) Content knowledge for physical education, *Journal of Teaching in Physical Education*, 21, 368-377.

Silcock, P. (2013) Should the Cambridge primary review be wedded to Vygotsky?, *Education 3-13*, 41(3), 316-329.

Silverman, D. (2011) Introducing qualitative research, In D. Silverman (Ed) *Qualitative research* (3rd edition), London: Sage Publications, 3-12.

Silverman, D. (2013) *Doing qualitative research* (4th edition), London: Sage.

Sinelnikov, O. (2009) Sport education for teachers: Professional development when introducing a novel curriculum model, *European Physical Education Review*, 15(1), 91-114.

Singh, P. (2002) Pedagogising knowledge: Bernstein's theory of the pedagogic device, *British Journal of Sociology of Education*, 23(4), 571-582.

Schempp, P. (1993) Constructing professional knowledge: A case study of an experienced high school teacher, *Journal of Teaching in Physical Education*, 13, 2–23.

Schempp, P., Manross, D., Tan, S. and Fincher, M. (1998) Subject expertise and teachers' knowledge, *Journal of Teaching in Physical Education*, 17, 342–356.

Shor, I. and Freire, P. (1987) What is the "dialogical method"? *Journal of Education*, 169(3), 11-31.

Sharp, J., Bowkerb, R. and Byrne, J. (2008) VAK or VAK-uous? Towards the trivialisation of learning and the death of scholarship, *Research Papers in Education* 23(3), 293–314.

Shilling, C. (2010) Exploring the society-body-school nexus: Theoretical and methodological issues in the study of body pedagogies, *Sport, Education and Society*, 15(2), 151-167.

Shropshire, J. Carroll, B. and Yim, S. (1997) Primary school children's attitudes to physical education: Gender differences, *European Journal of Physical Education*, 2(1), 23-38.

Shulman, L. (1986) those who understand: Knowledge growth in teaching, *Educational Researcher,* 15 4-14

Shulman, L. (1987) Knowledge and teaching foundation of a new reform, *Harvard Review*, 57, 1-22.

Sicilia-Camacho, A. and Fernández-Balboa, J.M. (2009) Reflecting on the moral bases of critical pedagogy in PETE: Toward a Foucaultian perspective on ethics and the care of the self, *Sport, Education and Society*, 14(4), 443-463.

Sloan, S. (2010) The continuing development of primary sector physical education: Working together to raise quality of provision, *European Physical Education Review,* 16(3), 267-281.

Solmon, M. (2006) Learner cognition, In D, Kirk, D. Macdonald and M. O'Sullivan (Eds) *The handbook of physical education*, London: Sage, 226-241.

Sparkes, A. Templin, T. and Schempp, P. (1990) The problematic nature of a career in a marginal subject: some implications for teacher education, *Journal of Education for Teaching,* 16(1), 3-28.

Smith, A., Thurston, M., Green, K. and Lamb, K. (2007) Young People's Participation in National Curriculum Physical Education: A Study of 15-16-year-olds in the North-West of England and North-East of Wales, *European Physical Education Review*, 13(2), 165-194.

Smith, W. (2014) Fundamental movement skills and fundamental games skills are complementary pairs and should be taught in complementary ways at all stages of skill development, *Sport, Education and Society*, i-first article, available at: http://dx.doi.org/ 10.1080/13573322.2014.927757 [accessed: 3rd July, 2014].

Spencer, L., Ritchie, J., O'Connor, W., Morrell, G. and Ormston, R. (2014) Analysis in Practice. In J. Ritchie, J. Lewis, C. McNaughton Nicholls and R. Ormston (Eds) Qualitative research in practice: A guide for social science students and researchers, London: Sage Publications, 295-344.

Sport England and Youth Sport Trust (2009) The Physical Education and Sport strategy for Young People: A guide to delivering the five hour offer, DCMS/DCSF: Mixed Sources.

Sprake, A. and Walker, S. (2015) 'Blurred lines' the duty of physical education to establish a unified rationale, *European Physical Education Review,* i-first article, available at: http://epe.sagepub.com/content/early/2015/03/19/1356336X15577221 [accessed 9 October, 2015]

Stodden, D., Goodway, J. Langendorfer, S., Roberton, M. Rudisill, M. Garcia, C. and Garcia, L. (2008) A developmental perspective on the role of motor skill competence in physical activity: An emergent relationship, *Quest*, 60(2), 290-306.

Stolz, S. (2014a) *The philosophy of physical education: A new perspective*, Abingdon: Routledge.

Stolz, S. (2014b) Embodied Learning, *Educational Philosophy and Theory*, i-first article, available at: http://dx.doi.org/10.1080/00131857.2013.879694

Stolz, S. and Pill, S. (2014a) A narrative approach to exploring TGfU-GS, *sport Education and Society*, i-first article, available at: http://dx.doi.org/10.1080/13573322.2014.890930 [accessed: 3rd March, 2014].

Stolz and Pill (2014b) Telling physical education teacher education tales through pedagogical case studies, *Sport, Education and Society*, i-first article, available at: http://dx.doi.org.10.1080/13573322.2014.962495 [accessed: 15th October, 2014].

Storey, B. and Butler, J. (2013) Complexity thinking in PE: Game-centred approaches, games as complex adaptive systems, and ecological values, *Physical Education and Pedagogy,* 17(4), 133-149.

Stran, M. and Curtner-Smith, M. (2009) Influence of occupational socialization on two preservice teachers' interpretation and delivery of the sport education model, *Journal of Teaching in Physical Education,* 28(1), 38–53.

Stran, M. and Sinelnikov, O. (2012) Pre-service teachers' experiences implementing a hybrid curriculum: Sport education and teaching games for understanding, *European Physical Education Review*, 18(3), 287-308.

Sullivan, S. (2001) *Living across and through skins: Transactional bodies, pragmatism, and feminism*, Bloomington: Indiana University Press.

Sutton-Smith, B. (1997) *The ambiguity of play*, Cambridge, M.A.: Harvard University Press.

Swartz, D. (1997) *Culture and Power: The sociology of Pierre Bourdieu*, London: The University of Chicago Press.

Smyth, J. (2011) *Critical pedagogy for social justice*, London: Continuum.

Tan, C., Chow, J. and Davids, K. (2012) How does TGfU work? Examining the relationship between learning design in TGfU and a nonlinear pedagogy, *Physical Education and Sport Pedagogy*, 10(2), 181-210.

Tinning, R. (2005) Physical education in Australia: An interpretative account. In U Pühse and M. Gerber (Eds) *International comparison of physical education: Concepts, problems, prospects*, Oxford: Mayer and Mayer.

Tinning, R. (2002) Engaging siedentopian perspectives on content knowledge for physical education, *Journal of Teaching in Physical Education,* 21, 378-391.

Tinning, R. (2010) *Pedagogy and human movement*, Abingdon: Routledge.

Tinning, R. (2012) The idea of physical education: a memetic perspective, Physical Education and Sport Pedagogy, 17(2), 115-126.

Tinning, R. (2012) 'I don't read fiction': Academic discourse and the relationship between health and physical education, *Sport, Education and Society,* 20(6), 710-721.

Tinning, R. (2015) Commentary on research into learning in physical education: towards a mature field of knowledge, *Sport, Education and Society*, available at: http://dx.doi.org/10.1080/13573322.2014.994491 [accessed: 3rd March, 2015].

Thomas, D. (2006) A general inductive approach for analysing qualitative evaluation data, *American Journal of Evaluation,* 27, 237-246.

Thorburn M (2007) Achieving conceptual and curriculum coherence in high-stakes school examinations, *Physical Education and Sport Pedagogy*, 12(2), 163–184.

Thorburn, M. and MacAllister, J. (2013) Dewey, interest and well-being: Prospects for improving the educational value of physical education, *Quest*, 65(4), 458-468.

Tracey, S. (2010) Qualitative Quality: Eight "Big-Tent" Criteria for Excellent Qualitative Research, *Qualitative Inquiry* 16: 837-851.

Traianou, A. (2006) Teachers' adequacy of subject knowledge in primary science: assessing constructivist approaches from a sociocultural perspective, 28(8), 827-842.

Trotman, G. (2008) Primary teacher identity, commitment and career in performative school cultures, British Educational Research Journal, 34(5), 619-633

Tsangaridou, N. (2006). Teachers' beliefs, In D, Kirk, D. Macdonald and M. O'Sullivan (Eds) *The handbook of physical education*, London: Sage, 486-501.

Van Der Mars, H. (2006) Time and learning in physical education. In D, Kirk, D. Macdonald and M. O'Sullivan (Eds) *The handbook of physical education*, London: Sage, 191-213.

Vanderstraeten, R. (2002) Dewey's transactional constructivism, *Journal of the Philosophy of Education*, 36(2), 233-246.

Veal, W. and MaKinster, J. (1999) Pedagogical content knowledge taxonomies, *Electronic Journal of Science Education* Available at: http://wolfweb.unr.edu/homepage/crowther/ejse/vealmak.html [accessed 14th July, 2011].

Wallhead, T. and O'Sullivan, M. (2007) Sport education: Physical education for the new millennium?, *Physical Education and Sport Pedagogy*, 10(2), 181-210.

Wallian, N. and Wei Chang, C. (2006) Development and learning of motor skill competencies. In D. Kirk, D. Macdonald and M. O'Sullivan (Eds) *The handbook of physical education*, London: Sage, 292-311.

Warburton, P. and Woods, J. (1996) Health-promoting physical activity and extra-curricular sport*, European Physical Education Review,* 13(2), 131-144.

Ward, G. (2012) Examining Primary School Physical Education Coordinators' Pedagogical Content Knowledge of Games: Simply Playing At This? *Education 3-13*, 41(6), 562-585.

Ward, G. (2014) Learning movement culture: mapping the landscape between physical education and school sport, *Sport Education and Society*, 19(5), 569-604.

Ward, G. and Griggs, G. (2011) Principles of Play: a proposed framework towards a holistic overview of games in primary Physical Education, *Education 3-13,* 39 (5), 499-516.

Ward, G. and Quennerstedt, M. (2014) Transactions in Primary Physical Education in the UK: A smorgasbord of looks-like-sport, *Physical Education and Sport Pedagogy*, i-first article, available at: http://dx.doi.org/10.1080/17408989.2014.923991

Ward, G. and Quennerstedt, M. (2015) Knowing in Primary Physical Education in the UK: Negotiating Movement Culture, *Sport Education and Society,* 20(5), 588-603.

Ward, P., Ayvazo, S. and Lehwald, H. (2014) Using knowledge packets in teacher education to develop pedagogical content knowledge, *Journal of Physical Education, Recreation and Dance*, 85(6), 38-43.

Ward, P. and Lee, M. (2005) Peer-assisted learning in physical education: A review of theory and research, *Journal of Teaching in Physical Education*, 24(3), 205-211.

Watson, N., Weir, S. and Friend, S. (2005) The development of muscular Christianity in Victorian Britain and beyond, *Journal of Religion and Society*, 7, 73-89.

Webb, L. Quennerstedt, M. and Öhman, M. (2008) Healthy bodies: the construction of body and health in physical education, S*port, Education and Society*, 17(4), 353, 372.

Wellington, J. (2015) *Educational research contemporary issues and practical approaches* (2nd edition), London: Bloomsbury.

Werner, P., Thorpe, R. and Almond, L. (1996) Teaching for games understanding: Evolution of a model, *Journal of Physical Education, Recreation and Dance,* 67(1), 28-33.

Wertsch, J. (1995) The need for action in sociocultural research. In J. Wertsch, P. Del Rio, and T. Alvarez (Eds) *Sociocultural studies of mind*, Cambridge: Cambridge University Press, (56-74).

Wertsch, J. (1998) *Mind as Action*, New York: Oxford University Press.

Westbrook, R. (2010) The making of a democratic philosopher: the intellectual development of John Dewey, In Cochran, M. (Ed) *The Cambridge Companion to Dewey*, Cambridge: Cambridge University Press, 13-33.

Whatman, S. and Singh, P. (2015) Constructing health and physical education curricula for indigenous girls in a remote Australian community, *Physical Education and Sport Pedagogy*, 20(2), 215-231.

Whipp, P., Hutton, H., Grove, R. and Jackson, B. (2011) Outsourcing Physical Education in primary schools: Evaluating the impact of externally provided programmes on generalist teachers, *Asia-Pacific Journal of Health, Sport and Physical Education*, 2(2), 67-77.

Wickman, P. and Östman, L. (2002a) Induction as an empirical problem: how students generalise during practical work, *International Journal of Science Education*, 24(5), 465-486.

Wickman, P. and Östman, L. (2002b) Learning as discourse change: A sociocultural mechanism, *Science Education,* 86, 601-623.

Williams, B., Hay, P.J. and Macdonald, D. (2011) The outsourcing of health, sport and physical educational work; A state of play, *Physical Education and Sport Pedagogy*, 16(4), 99 – 415.

Williams, B. and Macdonald, D. (2015) Explaining outsourcing in health, sport and physical education, *Sport, Education and Society*, 20(1), 57-72.

Whitehead, M. (2001) The concept of Physical Literacy, *British Journal of Teaching Physical Education*, *32*(1), 127-138.

Whitehead, M. (2005) *The moving self: The concept of physical literacy and the development of a sense of self.* Paper presented at the IAPESGW, Edmonton, AB. available at: http://www.physical-literacy.org.uk/edmonton2005.php [accessed: 20th June, 2014]

Whitehead, M. (2007) Physical literacy: Philosophical considerations in relation to developing a sense of self, universality and propositional knowledge, *Sport, Ethics and Philosophy*, 1, 281–298

Whitehead, M. (2013) What is the education in physical education? In S. Capel and M. Whitehead (Eds) *Debates in Physical Education*, Abingdon: Routledge, 22-36.

Wickman, P. and Östman, L. (2002) Learning as discourse change: A sociocultural Mechanism, *Science Education,* 86, 601–23.

Wright, J. (1996) Mapping the discourses of physical education: articulating a female tradition, *Journal of Curriculum Studies*, 28 (3), 331-351.

Wright, J. (2000a) Bodies, meanings and movement: A comparison of the language of a physical education lesson and a Feldenkrais movement class, *Sport Education and Society,* 5(1), 35-49.

Wright, J. (2000b) Practical knowledge, performance and physical education, *Quest*, 52, 243-283.

Wright, J. (2004) Critical inquiry and problem-solving in physical education, In J. Wright, D. Macdonald and L. Burrows, (Eds) *Critical inquiry and problem-solving in physical education*, London: Routledge (5-22).

Wright, J. and Burrows, L. (2007) Prescribing practices: Shaping healthy children in schools, *International Journal of Children's Rights*, 15(1), 1-16.

Vanderstraeten, R. (2002) Dewey's transactional constructivism, *Journal of the Philosophy of Education*, 36(2), 233-246.

Young, M. (2014) What is a curriculum and what can it do? *The curriculum Journal*, 25(1), 7-13.

Appendix 1.

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Learning movement culture: mapping the landscape between physical education and school sport

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This article examines Movement Culture as an approach to support teachers in exploring the integration of Sport as a medium for learning within Physical Education. By avoiding the need to draw clearly defined lines between Physical Education and Sport, Movement Culture embraces both. It acknowledges the need for subject matter in Physical Education to reflect societal shifts towards greater individualisation and means of seeking self-realisation, through individual and collective movement practices. Movement Culture maintains the educational purpose of Physical Education by developing meaningful subject matter and contextualised learning that reflect contemporary and evolving participation in Sport. Structural components for two frameworks are developed from an analysis of learning within Movement Culture. The frameworks are then employed to explore potential subject matter drawn from Sport. It is argued the structure of these frameworks retain sufficient portability to different Sports or groups of Sports and thus track developments in Movement Culture. Such structures also have the potential to support a more coherent rationale for pedagogical practice across Physical Education curricula.

Keywords: Physical Education; Sport; Movement Culture; Frameworks; Learning

Introduction

Both Physical Education and Sport are socially constructed and as such they have constantly evolved, shaped by political and commercial forces (Kirk, 2010). The influence of Sport discourses in the development of Physical Education extend from the earliest conceptions of School Sport developed by public schools and have been a prominent feature of the historical evolution of Physical Education curricula (Kirk, 2010). The championing of Sport by a mass influx of male teachers into the profession in the 1950s has made a significant contribution to contemporary notions of Physical Education (Kirk, 1992). However, Physical Education has attempted to maintain a place on school curricula through language couched in education, health and child development (Penney, 2000). In this context, Sport has traditionally formed the subject matter through which Physical Education has attempted to achieve these curricula objectives. Unfortunately, these curricula

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aspirations are severely limited by teachers' enduring socialisation within Physical Education, dominated by competitive Sport discourses. These serve to support the continual reproduction of traditional Sporting activities through performance based teaching methods and curricula (Capel, 2007). In this landscape the 'education' of Physical Education is subordinated by notions of excellence in Sports performance (Kirk & Gorley, 2000; Penney, 2000), enthusiastically endorsed by the former Labour and current coalition Government's education policies (Evans, 2012).

Discourse exploring the multiple points of interface between Physical Education and Sport is thus a contested space in which ambiguity and hostility are common (Pope, 2011). Pope (2011) believes the future of the relationship between Physical Education and Sport lies not in retreating to educational definitions of the subject but in an examination of how its interface with Sport can help produce mutually supportive pedagogic relationships. By embracing Physical Education and Sport within Movement Culture, Crum (1993) proposes a rationale for Physical Education which retains the subject's educational creditability through the provision of meaningful subject matter and contextualised learning that connects to contemporary shifts in Sport participation. By exploring Crum's (1993) conception of learning within Physical Education as an integral part of Movement Culture, this article presents examples of frameworks which attempt to provide greater pedagogical coherence between Sport and Physical Education. By utilising 'Strand' of learning, 'Development Phases' and 'Movement Problems' three example frameworks for contrasting Sporting activities are presented. These seek to explore potential subject matter for learning which connects both Sport and Physical Education and support a more coherent rationale for pedagogical practice. The 'strands of learning' form the core strata of the frameworks which enable the generation subject matter which reflect Bloom's (1956) learning domains and the educational processes which Physical Education has the potential to support. These are intersected with 'development phases' which embrace Gallahue and Donnelly's (2003) levels of movement skill learning and acknowledge the need for subject matter to support stages of child development. 'Movement problems' provide the context for the intersection of the 'strands of learning' and 'development phases' and support an analysis of the potential physical, affective and cognitive challenges which movement within the example activity areas may present.

This article first examines how Sport discourses have influenced the development of the dominant mode of pedagogical practice within Physical Education. This leads to an analysis of Pope's (2011) suggestion for the use of Murdoch's (1990) Integration Model as a route to secure more cohesive relationships at the Physical Education and Sport interface. Crum's (1993) conception of Movement Culture is proposed as a more cohesive and inclusive alternative to the Integration Model. An examination of Physical Education within Movement Culture is then employed to generate the structure and material contained within the frameworks presented.

Sport discourses within physical education

According to Kirk (2010) there exists an implicit agreement amongst school teachers which has resulted in Physical Education provision being constructed around a 'Sporting Model' (Capel, 2007, p. 494). The enduring and uniting feature of this agreement is pedagogical practice which amounts to the repetitive learning of techniques associated with a core curriculum of Sports dominated by traditional games that are not reflective of pupils' needs or the wider movement culture outside of school. Pupils face consistently regurgitated content, focused upon the mastery of performance skills, more often than not abstracted from their movement contexts. Exploration and learning of activities are severely restricted by short lessons, limited curricula blocks of Sports and teacher directed learning. Despite the intention to facilitate development in the performance of these Sport techniques, pupil progression throughout their years at school remains very limited (Capel, 2007; Kirk, 2010). The primary aim of this version of Sport culture is to engender pupils' love of Sport, but worryingly it merely guarantees the development of the physically able (Evans, 2012). Physical Education subsequently serves as inadequate preparation for pupils to pursue a healthy active lifestyle in adulthood (Kirk & Macdonald, 1998).

Practice such as this, conducted under the banner of Physical Education, exemplifies how the subject has become embroiled in a historical saga featuring a continually confusing identity crisis born out of its relationship with Sport (Kirk, 2010). The interface between these two spheres represents a contested space, filled with ambiguity, in some cases enmity, where debate has served to create little consensus and clarity (Pope, 2011). In this contested space, Physical Education and Sport practices are represented by confused aims, processes and outcomes (Kirk, 2010). Policy discourses have, in many cases, added greater confusion, particularly the monolithic Physical Education School Sport and Young People (PESSYP) (DCSF, 2008) strategy and its predecessor, the Physical Education and School Sport and Club Links (PESSCL) (DES & DCMS, 2003) strategy. Both aimed to create infrastructure and funding streams within Physical Education and School Sport characterised by hierarchical, cash led, fast paced change, driven by quantitative outcomes (Flintoff et al., 2011). These policies and their fragile legacy exists as a prominent example of the barriers and dangers of attempting to create high quality Physical Education and Sport without acknowledging and seeking clarity in their muddled interface (Flintoff et al., 2011). Funding for the PESSCL and PESSYP strategies secured government investment based upon the reputed contribution Physical Education makes to the hidden curriculum (Brettschneider, 1992), identifying it as a tool to raise pupil attainment, facilitate whole school improvement and create a world class system of school Sport (Casbon & Walters, 2004; Capel, 2007). The hand behind the tool, however, was primarily concerned with driving through policy and infrastructure coached in the language and practices of Sport (Green, 2008). This 'Sportification' of Physical Education simply served to confirm its peripheral role in the curriculum, subordinating it as a short-handled miracle tool

to solve long term national health concerns, provide infrastructure for budding 2012 Olympians and act as a sweetener to the medicine required to increase pupil attendance, behaviour and achievement. By failing to understand its relationship with Sport, Physical Education was exposed to the reality of becoming a national policy pawn where any progress towards high quality pedagogical practice was 'hard-won, but somewhat fragile'. (Flintoff et al., 2011, p. 349).

The sport-physical education interface

To aid the navigation of the complex relationships created by the SportÁPhysical Education interface Pope (2011) utilises Murdoch's (1990) framework of five models of 'relationship'; Substitution, Versus, Reinforcement, Sequence and Integration, to examine the connection between Sport and Physical Education within a New Zealand perspective. When presenting her model, Murdoch (1990) recognises the difficulty in capturing 'the richness and complexity of the interaction between two such clearly established and distinct phenomena' (p. 64) and thus, argues the need to view each model separately, whilst acknowledging their non-exclusivity in practice. A 'Substitution Model' is created when Sport and Physical Education are conflated, a situation regularly seen in the public domain, where curriculum learning is perceived as simply developing competence in Sports performance. This was also seen in the creation of School 'Sport' Partnerships (SSPs), rather than 'Physical Education Partnerships', to act as the infrastructure for the Physical Education and School Sport and Club Links (PESSCL) and Physical Education School Sport and Young People (PESSYP) strategies. Recent examples feature in the coalition Government's recent emphasis on competitive school Sport within announcements concerning the future of Physical Education within the National Curriculum (Gove, 2010).

Conversely, when there is a desire for differentiation between Sport and Physical Education a 'Versus Model' arises. The obligatory bolt-on SSP structure, which created a separation in staff roles and responsibilities driven by discrete funding streams and outcomes, provides an illustration of this differentiation, in particular, the demand for increased Sporting competitions and pathways for Sport performance (Griggs & Ward, 2010; Flintoff et al., 2011). For Murdoch (1990) the 'Substitution' and 'Verses' Models do not represent potential for working relationships, however, as we can see in the PESSCL and PESSYP strategies they reveal key problems that can arise from these interfaces. In contrast the 'Reinforcement' and 'Sequence' models can offer more positive, yet tense relationships that may be worthy of consideration for development (Murdoch, 1990).

The 'Reinforcement Model' can be seen in the discourse associated within the conceptualisation of High Quality Physical Education and School Sport (DfES/DCMS, 2004), wrapped in the idea of a reciprocal relationship between the two spheres where participation in one becomes a function of the other. Pope (2011) claims the 'Sequence Model' to be one subscribed to by the majority of Physical Education

teachers, in which their subject serves as an introduction and foundation to a lifetime participation in Sport. This was often seen within SSPs where primary schools employed Physical Education lessons to prepare for interschool Sporting competitions (Griggs & Ward, 2010; Ward, in press). Positioning Physical Education at the base of the pyramid of Sporting performance subordinates the subject as preparation to climb the ladder of Sporting performance (Kirk & Gorley, 2000). However, Physical Education programmes in the majority of schools centre on the demands made by school Sport (Capel, 2007), creating conflict between teachers' roles as teachers and team coaches (Schempp, 1993; O'Connor & MacDonald, 2002).

As can be seen, the non-exclusivity of Murdoch's (1990) models demonstrates that all four models of relationships between Physical Education and Sport have been represented in the discourses and practices resulting from the now substantially diminished PESSCL and PESSYP strategies. It is clear that individual forms of these models, or an amalgamation of all of the four models, will not constitute any substantive framework to meet the needs of all children in Physical Education (Murdoch, 1990). For both Murdoch (1990) and Pope (2011) it is the 'Integration Model' which provides the most productive perspective for the future interface of Physical Education and School Sport. For Pope (2011) the pedagogical models of Sport Education (SE) and Teaching Games for Understanding (TGfU) represent the best tools to strengthen their integration. He suggests the latter can be achieved through the educative approach to the culture of Sport claimed by SE, the exploration of different Sporting forms of games through the cognitive processes associated with TGfU, and a combination of the two models. However, as Pope (2011) admits both models maintain extended periods of latency, this is reflected in the absence of research reflecting any consistent and regular use within secondary and primary school Physical Education in the UK (see Hunter, 2006). Hybrids of the models, in which processes of both models are combined, are also an exception to the rule (see Hastie & Curtner-Smith, 2006). How pupil experiences within these models are then connected to pathways into community Sport have also yet to be addressed (Pope, 2011).

Pedagogical practice can be developed through these models and hybrids of them. However, their comprehensive adoption will not solve the challenging process of navigating the complex relationship between Sport and Physical Education. There is a danger here that simply adhering to the processes of SE or TGfU, without reflecting on how learning processes and outcomes for Sport and Physical Education are being combined, sufficient rigor to strength Murdoch's (1990) 'Integration Model' will be left wanting. Whilst change in pedagogical practice is an essential feature to the integration process, SE and TGfU do not provide a unified conceptual vantage point to reinforce this strengthening. Indeed, Tinning (2010) has suggested that no utopian pedagogical model exists and any practice within Physical Education will depend upon the realities of school facilities and class sizes. This suggests that there is a need for an alternative approach, which provides strong points of integration and sufficient clarity without relying upon whole scale control of teacher training and professional development practices. This approach will also need the

robustness to endure the competing discourses and policies which will continue to exist at the Physical Education-Sport interface. Movement Culture, of which both Physical Education and Sport are an integral part, affords both a conceptual perspective and sufficient structure to achieve a secure and coherent position of integration.

Physical education and sport * integral parts of movement culture

Kirk (1999, p. 65) proposes a revival of the term 'Physical Culture' which encompasses the 'embeddedness' of the maintenance, representation and regulation of the body in various cultural practices. He argues the growth in the use of the term in the early twentieth century development of Physical Education enables greater historical continuity when analysing the relationships between past and present forms of physical activity. Crum (1993), however, rejects the term 'Physical Culture' on the basis of the significance of the meaning created by the word 'physical' which has the potential to invoke mindÁbody dualisms. He argues the latter undermines his conception of human movement as a dialogue between the moving individual and movement-induced meanings in his or her world.

Despite this disparity in terminology both Kirk (1999) and Crum (1993) reach similar conclusions concerning the impact of post-industrial 'mediaization' (Kirk, 1999, p. 67), commercial commodification upon our embodied engagement of with institutional forms of Sport, Physical Recreation and Exercise. Both Physical Culture and Movement Culture offer useful broad terms of reference, however, of particular significance is Crum's (1993) attention to the implications of these post-industrial changes in discourses for learning processes within Physical Education. In particular, his case for teachers to acknowledge and seek to make learning relevant to pupils the dynamic nature of individual movement-induced meaning encompassed by Movement Culture.

According to Crum (1994) Movement Culture is a common umbrella term within German and Dutch languages which encompasses all leisure actions in which the human moving act is the 'essence' (p. 115) and 'refers to the way in which a social group deals with the need and desire for movement beyond labour or maintaining life. Movement Culture contains the set of movement actions and interactions (Sport, play, dance, or other fitness activities) that encompass a group's leisure' (Crum, 1993, p. 341). Within UK Movement Culture, Sport occupies the dominant position, in which two discourses dominate; participation and performance. Despite being mutually supportive, the prevailing ethic of performativity through the competitive motive has ensured the performance discourse remains privileged (Tinning, 2010). Consequently, pedagogy has focused on the mastery of technical skills as a means to achieve competitive success and has become an enduring, historical feature for generations of coaching and teaching practices (Whitehead & Hendry, 1976). As we have already seen, within Physical Education this has resulted in a limited range of pedagogical approaches, formal, didactic and teacher centred

being the most common (Kirk & Kinchin, 2003; Kirk, 2010). Over time discourse within Physical Education has shifted 'away from valuing individual creativity and problem solving towards performance, away from process to product' (Wright, 1996, p. 340). Curriculum designs over the last half of a century have continued to draw upon this move towards performativity which provides the basis of most current Physical Education programmes (Kirk, 2010; Evans, 2012). Tinning (2002) argues continuing to teach traditional physical activities in traditional ways, renders Physical Education increasing irrelevant to the lives of many pupils, potentially making the subject, according to Kirk (1999, p. 108), 'culturally obsolete and irrelevant'.

In contrast, Movement Culture, recognises that as broader cultural landscapes change so does the landscape in which 'people realise and experience important values, such as recreation, health, adventure, excitement, togetherness, performance, and self-realisation' (Crum, 1993, p. 341). The cultural context of Movement Culture makes it reflective of the diversity of movement practices, relative to different times and spaces and their integral connection to shift in cultural norms and values (Crum, 1994). The historical development of Physical Education from military drill to educational gymnastics, matching changes in national political agendas and educational thinking, serves to illustrate these integrated shifts in culture and movement practices. Radical contemporary cultural shifts have been conceptualised in various terms 'Postmodernity' (Lyotard, 1984; Bauman, 1992), 'Late Modernity' (Giddens, 1991), the 'Global age' (Albrow, 1997) and 'Reflexive Modernisation' (Beck et al., 1994). Beck (2011) terms these changes as movement from 'first modernity' to 'second modernity'. In 'first modernity', social relations are territorially 'contained' on national, regional and local levels, with societal institutions occupying integral positions in the nation-state. Places of work, education and the practice of religion act as powerful determinants of individuals' freedom and equality (Beck et al., 2003). In contrast, 'Second modernity' is characterised by a shift to a more globalised and borderless society, enabled through technological innovation. The move towards more egalitarian viewpoints on gender, leads to significant changes in family roles and working practices (Beck & Beck-Gernsheim, 2001). Greater individualisation, results in a choice driven and consumerist society, in which the legitimacy of traditional social institutions are questioned (Beck & Beck-Gernsheim, 2001). As a result 'a new kind of society and a new kind of personal life are coming into being'. (Beck, 2011, p. 281). Within this 'new society' the power of traditional collective organisations such as the church, school, labour unions and family, are substantially reduced (Giddens, 1991). People are increasing perceiving themselves as unique individuals, exercising self-consciousness, creativity and agency, choosing not to be prescribed standard identities through memberships and affiliations (Prout, 2000). For Beck (1998) within Western cultures individualisation of the young creates such momentum that they come to individualise themselves, this 'biographization' (Beck, 1998, p. 78) demanding a continual struggle to design their life.

This cultural freedom, increased economic affluence and greater leisure time within Western societies have combined to create space for people to seek greater

'self-realisation' (Lubbe, 1988). Crum (1994) suggests that this process is fully evident within Sport, which acts as a readily accessible 'medium for the experience and training of self-determination and self-realisation . . . irrespective of their sex, age, social class and level of education' (Crum, 1994, p. 119). Young people seek and thrive within new kinds of institutions in which authority, and allegiance, must be constantly renegotiated, re-established and earned (Holland & Thomson, 1999). Prout (2000) posits that young people find authority and respect based upon tradition and custom increasingly difficult to acknowledge and as a result seek an 'ethic of reciprocity' (p. 308) in ascribing respect to individuals and institutions. Within such a milieu, traditional values championed by Sport and Physical Education become increasingly irrelevant, and have alienated a significant number of young people (Kirk, 2010). Physical Education currently taught in UK schools has been argued to fail to engage young people and thus fails to prepare them to become active creators and consumers of the varied forms of physical activity available outside school (Sandford & Rich, 2006). This has been compounded by the enduring reproduction of traditional practices in curriculum design and teaching within Physical Education (Tsangaridou, 2006). The resistance of these practices create a significantly high risk for further dissatisfaction and disengagement from Physical Education (Tinning, 2002; Kirk, 2010). Movement Culture thus becomes a valuable starting point for redefining the subject's educational aims and strengthening more coherent, integrated connections with Sport.

Recent participation surveys of the UK reveal a growth in popularity of 'alternative' Sports (Sport England, 2006; 2007). Literature reporting this trend suggests that participation is actually higher than official figures, with growth rates greater than established Sports, reflecting wider proliferation across society (Tomlinson et al., 2005; Booth & Thorpe, 2007; Gilchrist & Wheaton, 2011). Underpinning these alternative Sports are philosophies of community, which value individualisation, self-expression and personal growth (Anderson, 1995; Heale, 2001). By conceptualising Physical Education within Movement Culture, a powerful rationale is created for the subject to embrace these contemporary cultural shifts in Sports engagement and participation, whilst not excluding traditional Sports. For Crum (1994) the role of Physical Education within Movement Culture should be to encapsulate learning with a 'utility value for the Movement Culture outside the school [maximising] its potential to qualify youngsters for an emancipated, satisfying and lasting participation'. (p. 116). This does not mean Physical Education should suddenly drop all traditional forms of Sport, rather, Sporting activities should be seen as the medium through which the subject seeks the achievement of its educational aims. The selection of these learning mediums needs to reflect shifts in wider Movement Culture and create a context to support future active participation. Crum (1994) believes these activities should be drawn from; Elite Sport, Competitive Club Sport, Recreation Sport, Fitness Sport, Risk and Adventure, Lust Sport and Cosmetic Sport. Debate may arise about these or alternative classifications, however, what is clear is a need to make Physical

Education reflective of the era of second modernity as opposed to the era of first modernity in which it was conceived.

Making 'sacred cows' of traditional Sports and racing to adopt in vogue youth activities in an attempt to make the subject culturally relevant will not suffice (Crum, 1994, p. 128). Crucially, rather than trying to predict the future landscape of Movement Culture, Crum (1994) believes decisions governing the inclusion of physical activities into Physical Education curricula should be based upon the relevance of a physical activity to the teachingÁlearning process. For Crum (1994) Physical Education should be a learning context in which pupils develop a personal movement identity which inherently involves utilising a range of Sporting activities to enable them to become critical and life-long consumers of Movement Culture. By placing learning processes at the forefront of the subject, Bloom's (1956) psychomotor, cognitive and socio-affective domains of learning create a structure which supports the re-establishment of the educational aims of Physical Education. Crum (1993) argues there is a balancing act to be achieved here, between the risk of decontextualizing learning by keeping Physical Education at a safe distance from competitive Sport to focus attention on learning within these domains, and maintaining elements of fun, celebration, competition and achievement, which intra and inter school Sport can offer. Moving away from a Sports activity based curriculum to one which is thematically orientated, Crum (1994) argues domains of learning processes become the key route through which pupils are supported in becoming successful, self-directed, learners, with the volition to pursue life-long involvement in healthy physical activity (Penney & Chandler, 2000). A cornerstone of the learning processes within this curriculum is the development of an understanding of the social making of Movement Culture, in particular, an appreciation that rules can and should be changed to support learning and enjoyment. By doing so pupils will come to understand what Movement Culture is and eventually and if necessary, how to change the conventions and rules which govern it, to support their active participation (Crum, 1993). Pedagogy should also empower pupils to value and organise fitness for health and become critical consumers of Movement Culture by understanding the powerful agents involved in Sport. Crum (1993) argues this approach demands that learning should essentially, be concerned with the process of solving movement problems in different contexts, rather than being led by specific Sporting activities.

To guide this process Crum (1993) develops and tailors Bloom's (1956) learning domains to present four key Strands of learning processes, which create a valuable framework for Physical Education to retain its focus on learning, but also scaffold its integration with Sport:

. Technomotor*learning to solve the technical motor problems presented by moving in context;
. Sociomotor*learning to solve the social problems presented by moving and playing with and against others;

. Cognitive/reflective*learning to understand how to become more effective at solving movement problems through understanding the patterns and processes inherently involved;
. Affective*development of a positive bond with exercise, movement, play and Sport.

Gagne (2004) asserts whilst there are limitations to distinguishing domains of processes within learning, there are three key benefits to doing so. First, this delineation enables the identification of specific curricula areas in which different instructional strategies may be employed, such as the use of repetitive drills or mini-games to develop technical proficiency (Technomotor strand). Second, developing learning domains supports an understanding of the relationship between instructional strategies within different curricula areas, for example, the use of problem-based learning to develop an understanding of why similar body positions and movements are useful in different contexts (Cognitive/Reflective stand). Third, they provide a focus for assessing learning outcomes and thus avoid assumptions, for example that technical proficiency corresponds to comprehension of potential relationships between tactical problems presented by contrasting types of games.

Categorising learning processes provides the teacher with a framework to generate an overview of how they may relate to particular curricula content and thus support a rationale for selection of instructional strategies and assessment outcomes. This delineation, however, does not transfer to the Physical Education lesson in that the use of particular instructional tools or the focus on particular learning processes will inherently demand learning from different categories. For example, when teaching Gymnastics, Crum's (1993) Stands of learning may support a teacher in deciding to focus upon Technomotor and Affective learning processes. The teacher may decide, therefore, to use SE to support pupils in the achievement of learning outcomes connected to coaching, team managing and officiating. Learning, however, will inherently involve processes across other strands. Preparing for and competing in a class competition in Gymnastics will demand, for example, understanding the sequencing of actions and which may be developed and performed in groups and this will require Sociomotor and Cognitive/Reflective learning.

Movement culture a framework for physical education curricula*

Essentially, Crum (1993) provides a clear rationale and a potential structure for teachers to develop Physical Education contexts which explore the dialogue between the moving individual and movement-induced meanings in his or her world. What is missing, however, is the finer detail of this structure which will support teachers in their analysis of different Sports to support this exploration of Movement Culture. Table 1ÁTable 5 present structures which aim to provide this finer detail by utilising three different activity areas commonly taught across the age ranges in Physical Education within the UK; Games, Swimming and Gymnastics. The latter have been selected to encompass traditional activities and provide an illustration of how

Table 1. Technomotor, Sociomotor, Cognitive/Reflective and affective learning outcomes in games

Strands of learning	Stages of building Technomotor, Sociomotor, Cognitive/Reflective and affective development			
	Play and early years	Fundamental movement skills phase (Water-Based)	Specialised movement phase	Specialised activity phase
Technomotor Learning to solve the technical motor problems presented by moving in context.	Explore simple actions and combinations of actions themed around Travelling (off-the-ball), Sending (on-the-ball) Travelling (on-the-ball) Receiving (on-the-ball), Passing (on-the-ball). Demonstrate progression in control and co-ordination.	Develop control and co-ordination in a range of core skills across the themes of; Travelling (off-the-ball), Sending (on-the-ball), Travelling (on-the-ball), Receiving (on-the-ball), Passing (on-the-ball). Execute these skills within simple games which provide the time and space for the regular and consistent opportunities for the skills to be executed with a recognised tactical purpose and an effective outcome.	Refine and combine actions to develop control, co-ordination and fluency in a range of skills across the themes of Travelling (off-the-ball), Sending (on-the-ball), Travelling (on-the-ball), Receiving (on-the-ball), Passing (on-the-ball). Execute these skills appropriately and effectively within games which provide regular and consistent opportunities for the skills to be executed with a specific tactical purpose and an effective outcome.	Execute combinations of specialised skills related to specific sporting versions of games with fluency and consistent accuracy. Connect the execution of these skills with quick and effective decision-making to ensure appropriate and successful tactical solutions are reached within particular phases of play.

Table 1 (Continued)

Strands of learning	Stages of building Technomotor, Sociomotor, Cognitive/Reflective and affective development			
	Play and early years	Fundamental movement skills phase (Water-Based)	Specialised movement phase	Specialised activity phase
Sociomotor Learning to solve the social problems presented by moving and playing with and against others.	Work with others to develop considerate and safe behaviour when working with games equipment such as, taking turns, understanding and abiding by simple rules.	Recognise how abiding by agreed rules and fair play contribute to enjoyable game play. Compare and contrast the social demands of individual and small team games. Explore simple solutions to these social challenges. Recognise the importance of team affiliation and how including and supporting others can aid its creation.	Understand how etiquette contributes to an enjoyable competitive environment and adopting an officiating role to support fair and enjoyable game play. Recognise how perspective and context can support the need for a balance between competitive results and learning and progression. Recognise the importance of all team members in solving tactical problems created by team games and understand the social-emotional challenges created by competitive game play. Explore the role of positive feedback, recognising individual strengths and weaknesses and motivational states can help these challenges to be overcome. Learn how to provide appropriate feedback to support more proficient movement and tactical play when practicing and playing. Understand the contribution adopting officiating, coaching, statistician and competition manager roles can play in supporting game play and player development.	Understand how empathy, focusing on positive efforts and strategic thinking are required to create and support team affiliation. Work with peers to create games and/or adjust rules and conditions to support the execution of specific skills to reach particular tactical solutions. Create and adopt different roles such as official, coach, captain, manager, competition manager to support enjoyable and successful competitive team play. Respect the efforts and decisions of those adopting these roles. Explore different forms of competition and the consequences of their outcomes. Work appropriately and with independence to develop individual and team proficiency.

Table 1 (Continued)

Strands of learning	Stages of building Technomotor, Sociomotor, Cognitive/Reflective and affective development			
	Play and early years	Fundamental movement skills phase (Water-Based)	Specialised movement phase	Specialised activity phase
Cognitive/Reflective				
Learning toExplore different understandproperties of equipment how toand the relationship become more between movements effective atand their effect on this solvingequipment. Develop an movementunderstanding of problemspersonal space and throughrecognise and utilise understanding empty space. Recognise the patternshow different and processes movements create inherentlydifferent demands on involved.the body.		Recognise the relationship between key Technomotor movements and successful execution of a range of games skills across the themes of; Travelling (off-the-ball), Sending (on-the-ball) Travelling (on-the-ball) Receiving (on-the-ball), Passing (on-the-ball). Develop an understanding of the need for consistency in conditions when practicing to become more proficient at particular skills. Recognise the relationship between key rules and equipment and the creation of tactical problems. Recognising key tactical solutions to these tactical problems. Recognise the connection between on-the-ball and off-the-ball skills and the need to make decisions to use these skills to reach a selected tactical solution. Recognise that decision-making and skilfulness are not limited to those in direct contact with the ball. Recognise the physical fitness and Technomotor demands of different skills and reflect upon personal strengths and weaknesses.	Understand and recognise how rules and equipment create categories of games based upon the tactical problems they represent players. Work as an individual and with others to explore the relationships between on-the-ball and off-the-ball and skills and their connection to particular tactical solutions to particular tactical problems. Recognise similarities and differences between on-the-ball skills, off-the-ball skills and tactical solutions in games with similar and contrasting tactical problems. Recognise how rules and equipment can be altered to create games which represent phases of game play and facilitate development of skill execution and appropriate, effective decision-making. Reflect upon the reasoning behind decisions made during game play and develop an understanding the cycle of information processing, particularly the role of selective attention in making quick decisions. Recognise how to observe skill execution and recognise strengths and weaknesses. Recognise how weaknesses can be developed in isolated and game-related practices. Identify the fitness requirements of different skills and recognise a connection with other activity areas. Reflect upon personal strengths and weaknesses and employ this information to make decisions over what and how to practice, by devising fitness activities, skill practices and simple games. Recognise how playing games can contribute to personal health.	Analyse and demonstrate an understanding of the relationships between particular on-the-ball and off-the-ball and skills and their connection with a combination of tactical solutions, to solve particular tactical problems within the context of specific sporting forms of games. Understand similarities and differences between on-the-ball skills, off-the-ball skills and tactical solutions in games with similar and contrasting tactical problems. Understand how rules and equipment can be altered to create games which represent phases of game play and facilitate development of skill execution and appropriate, effective decision-making. Analyse decisions made during game play through an understanding of information processing and selective attention. Employ simple frame-works for analysing the execution of on-the-ball and off-the-ball skills to evaluate their effectiveness. Reflect upon personal strengths, weaknesses and motivations, using this information to devise practices to help develop physical fitness, Technomotor competence and/ or decision-making. Understand how skills, fitness and the social dimensions of playing games can contribute to personal health.

Table 1 (Continued)

Strands of learning	Stages of building Technomotor, Sociomotor, Cognitive/Reflective and affective development			
	Play and early years	Fundamental movement skills phase (Water-Based)	Specialised movement phase	Specialised activity phase
Affective Developing of a positive bond with exercise, movement, play and sport.	Develop confidence and enjoyment of exploring the control of various pieces of appropriate equipment which may be used in game play.	Develop confidence and enjoyment of exploring particular skills within different game contexts. Rise to the challenge which different games present and persevere individually and with others to achieve the best possible outcomes.	Contribute to team affiliation within games learning and commit to achieve the best possible outcomes from learning tasks. Take ownership of small games, being prepared to adopt non-playing and playing roles to support their successful completion. Show a commitment to work independently and with others to develop personal strengths and weakness in games play through individualised practices and games. Identify formal and informal opportunities within the local environment and community to engage in game play. Reflect upon factors which affect personal motivations to engage with these opportunities.	Demonstrate perseverance in practicing to develop individual physical fitness, Technomotor and decision-making competencies. Demonstrate a desire to work independently and take ownership in groups in the structuring and maintenance of an intra-class event. Fulfil playing and non-playing roles with commitment to ensure the successful completion of a class event. Reflect upon personal experiences of game play within the community and analyse the structures involved in this provision. Explore how potential barriers to participation and enjoyment may be overcome.

learning processes and outcomes can be shaped from a Movement Culture perspective. These activity areas are drawn from Best's (1978) 'Purposive' and 'Aesthetic' Sports, which in contrast to Crum's (1993) categories of Sports, more readily reveal underlying principles and potential for exploration within a Physical Education context.

Purposive Sports include games such as Ten Pin Bowling, Rugby, Badminton and Rounders and athletic activities such as competitive Swimming and Track and Field (Davis, 2007). These activities have clearly defined objectives, however, the manner in which these are achieved within the rules, is unimportant. In contrast Aesthetic Sports such as Gymnastics and Synchronised Swimming, their aims and means to achieve these aims are implicit and cannot be distinguished (Best, 1978).

The Swimming frameworks in Table 2 and Table 3 include both Aesthetic Sports in the form of Synchronised Swimming and Purposive Sports in the guise of competitive Swimming and Lifesaving. This demonstrates the need for Physical Education activities based in Swimming environments to embrace a balance of both Purpose and Aesthetic Sports. Best's (1978) category of Aesthetic Sports has prompted further debate concerning the place of Dance within Physical Education. Dance is often regarded as a performing art, its distinctive features making the domain less appealing to Physical Education teachers, who tend to be camped within Purposive and Aesthetic Sports (Gard, 2004). If viewed in a line, Dance would lie to the side of Aesthetic Sports furthest away from Purposive Sports and limited space here restricts the production of a framework, however, in many cases, it would be very similar to the one presented for Gymnastics.

The frameworks presented utilise three domains of analysis: Crum's (1993) four stands of learning, 'Developmental Phases' and 'Movement Problems'. The 'Developmental Phases' embrace Gallahue and Donnelly's (2003) levels of movement skill learning which acknowledge that not all children develop according to particular time frames and are therefore, not chronologically determined. Rather, they are based upon broad developmental phases through which a child should be encouraged to progress. The 'Movement Problems' are based upon analysis of the potential physical, affective and cognitive challenges which movement within these activity areas may present. Table 1, Table 2 and Table 4 present an illustration of potential learning content in each of the three activity areas which can be developed when applying Crum's (1993) four stands of learning across the four phases of child development within Physical Education. Of particular interest is the Sociomotor strand which is an addition to Bloom's (1956) taxonomy of learning, which emphasises the curricula content in Physical Education which may be developed when exploring the social problems presented when learning to move with and playing against others. For example, Table 1 exemplifies the possible Sociomotor learning processes which the teacher may choose to develop when teaching Games. These social learning processes can be subordinated to an informal curriculum or by-product of Games teaching, in favour of focusing upon Technomotor learning processes to develop performance based learning outcomes. The aim of Table 1 is to exemplify the value each learning strand contributes to mapping a breadth of

Table 2. Technomotor, Sociomotor, Cognitive/Reflective and affective learning outcomes in swimming

	Stages of building Technomotor, Sociomotor, Cognitive/Reflective and affective development			
Strands of learning	Early years play	Fundamental movement skills phase (Water-Based)	Specialised movement phase	Specialised activity phase
Technomotor Learning to solve the technical motor problems presented by moving in context.	Develop basic pre-entry, in-water and water-exit skills which enable the learner to move safely and with co-ordination, control and confidence.	Explore key movement competencies which enable safe and effective entry/exit and movement; above, below and through the water Á show control and co-ordination of buoyancy, streamlining, propulsion and recovery.	Refine and combine skills to develop competence at entering/exiting and moving, above, below and through the water Á showing consistent fluency and efficiency in the control of buoyancy, streamlining, propulsion and recovery.	Develop and execute specialist skills to ensure consistent, proficient movement within a range of water-based movement contexts e.g. competitive swimming, lifesaving, diving, synchronised swimming.
Sociomotor Learning to solve the social problems presented by moving and playing with and against others.	Work with others to develop considerate and safe behaviour when working within water-based movement environments, recognising local rules, conditions and roles of key personnel.	Work individually and with others to solve basic movement problems which demand creating sequences of movement that link water-based FMS together. Share ideas with others and use these exchanges to develop ideas, recognising the importance of listening and speaking in this process.	Demonstrate an understanding of how to work effectively with others in sharing and developing ideas. Work with others to solve more specialised movement problems and develop and understanding of how to provide feedback to support the more proficient movement of others.	Work with independence to develop the movement proficiency of the self and others. Work with peers to create movement problems for others to solve, adjusting rules and conditions to support learning and enjoyment. Create and adopt officiating, coaching and competition manager roles in an intra-class event. Support the decisions made by peers adopting these roles and recognise the value of these roles.

Table 2 (Continued)

Strands of learning	Stages of building Technomotor, Sociomotor, Cognitive/Reflective and affective development: Early years play	Fundamental movement skills phase (Water-Based)	Specialised movement phase	Specialised activity phase
Cognitive/Reflective Learning to understand how to become more effective at solving movement problems through understanding the patterns and processes inherently involved.	Recognise the need for key movements to ensure safe and effective movement within a water-based environment. Recognise key properties of water and how these affect the body and movement. Recognise the different responses of the body to movement within the water.	Understand the rationale behind key movement patterns which produce safe and effective entry/exit and movement; above, below and through the water. Recognise the connections between different movements and physical responses of the body.	Use a basic framework to develop an understanding of the strengths and weaknesses in the movements of the self and others. Explore how practices, conditions and rules can be developed and adjusted to support more proficient movement. Recognise the physical fitness demands of movement within a water-based environment and connect these with other activity areas. Recognise how swimming can contribute to personal health and aid access to wider water-base movement culture.	Understand the processes behind making decisions in reaching solutions to, and the design of, complex movement problems within specialised activities such as lifesaving, competitive swimming and synchronised swimming. Employ this understanding to reflect upon personal strengths and weaknesses in movement proficiency and decision-making. Understand how swimming can contribute to personal health. Construct a fitness programme which recognises personal physical capacities and motivations.

Table 2 (Continued)

Strands of learning	Stages of building Technomotor, Sociomotor, Cognitive/Reflective and affective development			
	Early years play	Fundamental movement skills phase (Water-Based)	Specialised movement phase	Specialised activity phase
Affective Developing of a positive bond with exercise, movement, play and sport.	Develop confidence and enjoyment of playing within water-based movement environments.	Develop the confidence and motivation to enter/exit and move through the water individually and with others. Develop an understanding of the connections with the safety and health benefits from being a confident mover within water.	Develop the perseverance to improve proficient movement of the self and others. Demonstrate a desire to move with others and rise to the challenge of solving and refining solutions to water-based movement problems. Understand where and how to access swimming and wider-based water-based movement culture within the local community. Reflect upon factors which affect personal motivations to engage with these opportunities.	Demonstrate a desire to work independently and in groups to structure and maintain an intra-class swimming event. Engage in personally designed challenges to improve water-based fitness. Demonstrate an understanding of where to participate in swimming and wider water-based movement activities within the local community. Reflect upon personal involvement in local provision and the structures involved. Explore how potential barriers to participation and enjoyment may be overcome.

Table 3. Movement problems created by swimming and examples of learning across the Technomotor, Sociomotor, Reflective/Cognitive/Reflective and affective strands

Movement problems	Examples of learning outcomes to support Technomotor, Sociomotor, Cognitive/Reflective and affective learning			
	Early years play phase	Fundamental movement skills phase (Water-Based)	Specialised movement phase	Specialised activity phase
Safety and life preservation	Cognitive/Reflective: Understanding the properties of buoyancy aids and how these can aid safety and movement. Affective: Engaging in the exploration of moving the self and objects freely within a water-based environment. Understanding the role of a supporting safety.	Cognitive/Reflective: Understanding how propulsion and recovery can maintain the head above water. Affective: Demonstrating a willingness to solve an entry, propulsive and flotation movement problem safely and with efficient movement. with life preservation as a key consideration. Technomotor: Regaining a standing position in deep water. Floating and water through treading water.	Cognitive/Reflective: Understanding the implications of deciding to swim in particular land and water-based lifesaving techniques. Affective: Identifying the safety of local recreative swimming areas and researching employment opportunities at these sites. Sociomotor: Working with others to create a lifesaving problem for others to solve. pupils to solve.other key people in supporting safe participation. Technomotor: Using movements appropriate for water and land based lifesaving skills with consistent accuracy and speed of execution. competence in land-based and water-based lifesaving skills. Demonstrating a range of competence.propelling the body with maintaining the head above water back.	Cognitive/Reflective: Recognising the features of controlled safe swimming and lifesaving techniques. Affective: Practicing to improve the effectiveness of throwing a rescue aid and problem solving.oneself to increase the Sociomotor: Working with a partner to solve a movement problem Technomotor: Exploring entry and exits from floating and moving on and using steps, wall, bank or beach. Developing the front and back. Wading for entering known and unknown water. and entrances and exits and without aids on front and
	Understanding the roles and responsibilities of the self and buddy in			

Table 3 (Continued)

Movement problems	Examples of learning outcomes to support Technomotor, Sociomotor, Cognitive/Reflective and affective learning			
	Early years play phase	Fundamental movement skills phase (Water-Based)	Specialised movement phase	Specialised activity phase
Coordinating breathing and submerging	Cognitive/Reflective: Understanding the inability of the body to breath under the water.	Cognitive/Reflective: Recognising and understanding the need to inhale before submerging and slow exhaling whilst underwater.	Cognitive/Reflective: Observing, Making a connection between providing constructive feedback, and discussing possible practices to improve particular submerging and breathing technique.	Cognitive/Reflective: Making a connection between breathing requirements of different strokes and the need to maximise streamlining.
	Affective: Demonstrating a commitment to participation in game splashed on the face.	Affective: Solve submerging and breathing problems set by the teacher and peers. Maintain willingness to submerge and take part in practices to build confidence.	Affective: Demonstrating an enjoyment of developing a Technomotor technique which demands the co-ordination of breathing and submerging.	Affective: Understanding how water falling on the head can affect the confidence and being effective participation in game designed by peers.
	Sociomotor: Working with a partner to turns and making decisions on Technomotor skills and group strengths.	Sociomotor: Constructing a submerging task for a partner, which sequence which demonstrates matches their level of Technomotor competence.	Sociomotor: Playing a game within a small group which involves taking a series of breathing and submerging challenges.	Sociomotor: Working with a partner to support each other's Technomotor skills in matching the use of different breathing and contacting the face mouth with water.

Table 3 (Continued)

Movement problems	Examples of learning outcomes to support Technomotor, Sociomotor, Cognitive/Reflective and affective learning			
	Early years play phase	Fundamental movement skills phase (Water-Based)	Specialised movement phase	Specialised activity phase
Initiating movement through the water and changing direction	Technomotor: Submerging shoulders. Splashing water on faces. Cognitive/Reflective: Understanding how the floor and wall of a pool can be used and gliding on the surface and points for a two handed turn. Affective: Working towards an personal sink and glide distance target. Commit to solving a range of individually chosen target to move.	Technomotor: Blowing bubbles in the water. Submerging the head and body. Subjecting across the surface and deep. Blowing bubbles in the water. Using different propulsive actions with the head in and out of the water. Cognitive/Reflective: Recognising the role of rules in determining turning techniques used in competitive swimming. Affective: simple propulsive activities using the floor and wall to	Technomotor: Subjecting across the surface and deep. Using different propulsive actions with the head in and out of the water. Cognitive/Reflective: when submerged differ into propel the body through the water. Affective: Working to beat a refine or develop a turning showing an enjoyment of action.	Technomotor: Retrieving an object or casualty off the pool floor. Front Crawl swimming with bilateral breathing. Cognitive/Reflective: Analysing entries for depth and speed, consider the key differences and how the actions may be practiced. Affective: Participating in a team event focused around multiple Technomotor challenges that demand initiating movement and changing direction e.g. a multi-skills circuit or water polo type game.

Table 3 (Continued)

Movement problems	Examples of learning outcomes to support Technomotor, Sociomotor, Cognitive/Reflective and affective learning			
	Early years play phase	Fundamental movement skills phase (Water-Based)	Specialised movement phase	Specialised activity phase
Moving through the water	Sociomotor: Working with a partner to support each other in learning to jump and push away from the wall on the back and front. Technomotor: Moving from standing to floating. Jumping up and carrying the momentum down under the water. Pushing off to float on front and back. Cognitive/Reflective: Understanding the role of the key leg and arm actions in front stroke.	Sociomotor: Take part in a team game which involves taking turns and making decisions on matching the use of different breathing and submerging Technomotor skills and group strengths. Technomotor: Sinking and gliding. Moving from front to back inverted and straight body positions. Jump entries. Cognitive/Reflective: Experimenting with different body shapes and reflecting on personally chosen challenges, developing and understanding and reasons for personal movement strengths and weaknesses.	Sociomotor: Using information gained from a variety of sources, work with a partner to improve a turn and submerged glide. Technomotor: Rotating sinking and gliding. Rotating around different body axis. Two and one handed turns. Sitting and standing dives for depth and distance. Cognitive/Reflective: Estimating and measuring their easy and efficiency for movement through the water.	Sociomotor: Take an officiating and/or coaching role in an interclass team competition. Technomotor: Racing and acrobatic diving. Breast stroke turn. Tumble-turn. Back-crawl turn. Cognitive/Reflective: Understanding how an exercise programme needs to consider individual physiological and psychological strengths.

Table 3 (Continued)

Movement problems	Examples of learning outcomes to support Technomotor, Sociomotor, Cognitive/Reflective and affective learning			
	Early years play phase	Fundamental movement skills phase (Water-Based)	Specialised movement phase	Specialised activity phase
	Affective: Demonstrate an enjoyment of moving in different directions and pathways using different propulsive techniques.	Affective: Creating a pathway using different propulsive skills in different body positions for a partner to follow.	Affective: Setting a realistic set of time/ distance intervals to swim and choosing target of repetitions to complete.	Affective: Planning and executing a series of small exercise sessions which demand movement through the water that will appropriately and progressively stress the body to support physical health.
	Sociomotor: Towing a partner through the water making sure they are happy with the speed and direction.	Sociomotor: Teaching a partner a movement sentence which combines different propulsion and recovery actions.	Sociomotor: Working in a small group to plan, rehearse and perform a propulsion sequence which contains predetermined Technomotor skills and compositional concepts.	Sociomotor: Demonstrating a commitment to supporting personal and team success in a team challenge or competition.
	Technomotor: Moving from standing to floating. Pushing off to float on front and back.	Technomotor: Developing recognised actions	Technomotor: Refining recognised actions and learning additionalof traditional swimming actions such a side stroke andstrokes. butterfly. Linking these with other relevant Technomotor skills.	Technomotor: Developing propulsion/ recovery, streamlining and control of buoyancy to accommodate Technomotor skills demanded by more specialised swimming activities e.g. synchronised swimming.

Table 4. Technomotor, Sociomotor, Cognitive/Reflective and affective learning outcomes in gymnastics

	Stages of building Technomotor, Sociomotor, Cognitive/Reflective and affective development			
Strands of learning	Early years play	Fundamental movement skills phase (Water-Based)	Specialised movement phase	Specialised activity phase
Technomotor Learning to solve the technical motor problems presented by moving in context.	Explore simple actions and combinations of actions which enable the exploration of the key movement themes.	Explore space around the self and apparatus to develop and combine actions. Explore movement sentences that represent key movement themes and compositional concepts of directions, levels and speeds. Demonstrate tension, extension, control and co-ordination of momentum and body shapes.	Refine and combine actions to develop competence in more specialised gymnastic actions; part of or whole actions, including partial or full inversion of the body. Demonstrate movement sentences which explore space around the self, others and apparatus to show a breadth of understanding across the movement themes and compositional concepts of directions, levels, speeds and timings. Exhibit varied changes in body tension, control, co-ordination and fluidity of movement.	Develop and execute combinations of specialised skills which demonstrate a breadth and depth of understanding across the movement themes and compositional concepts. Exhibit precision in varied changes in body tension, fluidity, control, co-ordination.
Sociomotor Learning to solve the social problems presented by moving and playing with and against others.	Exhibit considerate and safe behaviour when working with others within a gymnastic environment. Contribute to agreed working conditions; abide to these codes of conduct. Share movement ideas with others.	Work individually and in small groups to explore solutions to simple movement problems. Develop an understanding of the roles listening and speaking play in supporting communication in the exchange and development of ideas. Work with others to handle and share apparatus safely and considerately.		

Table 4 (Continued)

Strands of learning	Stages of building Technomotor, Sociomotor, Cognitive/Reflective and affective development			
	Early years play	Fundamental movement skills phase (Water-Based)	Specialised movement phase	Specialised activity phase
		Work individually and with others to create and solve movement problems. Demonstrate an understanding of how to work effectively with others to share and build upon ideas, selecting and developing appropriate solutions which match individual competencies. Develop and understanding of how to provide feedback to support more proficient movement. Develop and understanding of how movement solutions and the immediate environment can be adjusted to support safety, learning and enjoyment.	Work with peers to create and adjust conditions which support safety, learning and enjoyment and the demonstration of solutions to complex movement problems. Demonstrate effectiveness in exchanging and developing ideas which support group cohesion and that lead to inclusive and effective movement solutions. Adopt coaching and officiating roles to support intra-class activities which promote more proficient and complex movement.	

Table 4 (Continued)

Strands of learning	Stages of building Technomotor, Sociomotor, Cognitive/Reflective and affective development			
	Early years play	Fundamental movement skills phase (Water-Based)	Specialised movement phase	Specialised activity phase
Cognitive/Reflective Learning to understand how to become more effective at solving movement problems through understanding the patterns and processes inherently involved.	Recognise the differences between movement themes and begin to associate recognised terms to describe these movements. Recognise how movements can be sequenced to enable the safe exploration of the movement themes. Reflect upon how the body responds to different types of movement.	Understand the differences between movement themes and connect key vocabulary to movements within them. Recognise how the sequencing of movements can enable the fluid exploration of the movement themes. Understand how body tension and momentum can be used to create different body shapes and qualities of movement. Recognise the importance of physical fitness in supporting the body in exploring gymnastic movement and enabling the safe lifting and carrying of apparatus.	Develop an understanding of the key features of effective body positions and movement which enable fluid and aesthetic movement within and between the movement themes. Understand the decisions required to develop movement sentences which explore the movement themes and compositional concepts. Begin to employ this understanding to improve personal and peer movement proficiency. Understand the key components of physical fitness which support the body in exploring gymnastic movement and enable the safe lifting and carrying of apparatus. Recognise the connections between the movement requirements within gymnastics and other activity areas. Recognise the potential gymnastic movement can contribute to health.	Apply understanding of effective body positions and movements that demonstrate fluid and aesthetic movement, to support the proficiency and quality of movement of the self and others. Reflect upon and explore the decisions required to develop complex movement sentences which explore the movement themes and compositional concepts. Construct a fitness programme which reflects personal motivations and competencies and supports the physical demands created by the exploration of individual and group gymnastic movement. Understand the connections between the movement requirements within gymnastics and other activity areas. Understand how gymnastic movement can contribute to personal health.

Table 4 (Continued)

Strands of learning	Stages of building Technomotor, Sociomotor, Cognitive/Reflective and affective development			
	Early years play	Fundamental movement skills phase (Water-Based)	Specialised movement phase	Specialised activity phase
Affective Developing of a positive bond with exercise, movement, play and sport.	Develop confidence and enjoyment of exploring movement individually and with others. Share movement ideas through demonstration.	Develop confidence and enjoyment from exploring space around the self, apparatus and others. Rise to the challenge of solving and refining movement problems, taking pride in the demonstration of solutions reached.	Demonstrate perseverance in engaging with the creation of movement sentences individually and with others. Take ownership and care of individual and group movement solutions and perform these solutions to others. Follow a simple conditioning programme to support the physical demands of exploring individual and group gymnastic movement. Recognise how learning within gymnastics can be applied to other environments within the local community. Reflect upon factors which affect motivations to engage with these opportunities.	Demonstrate a desire to work independently and in groups to develop movement proficiency and the creation and maintenance of an intra-class event. Perform work in front of larger groups and identify where in the local community learning and participation can be continued. Reflect upon personal experiences of gymnastics within the community, analysing the strengths and weaknesses of structures and involved in this provision. Explore how potential barriers to participation and enjoyment may be overcome.

potential learning processes. A similar process has been completed in Table 2 and Table 4 for Swimming and Gymnastic activities and the insight into the range of potential learning processes is intended to support the teacher in choosing appropriate subject matter to support this learning.

Although all learning will involve more than one strand, decisions can then be made as to appropriate learning process to drive their creation of units of work and provide pedagogical clarity and coherence to their Physical Education curricula. Inherent to these decisions will be the choice of particular teaching methods or pedagogical models suitable to support pupils in exploring these learning processes. This process of analysis essentially supports the teacher in developing a robust rationale for the location of pedagogical models within the nexus of competing contemporary Health, Sport and Educational agendas (Houlihan & Green, 2006; Pope, 2011).

To further support these pedagogical decisions, Table 3 and Table 5 present examples of how movement specific learning outcomes can be developed by applying each strand of learning across the Development Phases for the Movement Problems presented by the chosen activity area. Table 3 and Table 5 present examples of completing this process within Swimming and Gymnastic activities. A further framework for Games has not been provided due to the complexity of the movement problems and the vast wealth of subject matter which could be developed. The Games framework in Table 1 is based upon an analysis of the 'purposes' of different categories of games (defined by their rules and equipment) presented by Ward and Griggs (2011), which utilises Principles of Play, Tactical Problems, Tactical Solutions, On-the-ball and Off-the-ball skills as a means to identify the movement problems games can present the learner. The Ward and Griggs (2011) frameworks provide the platform from which these movement problems can be presented. This may take the form of broad thematic problems, such as maintaining possession using different equipment and rules, or developed into more specialised specialist Sport centred movement problems, such as penetrating and scoring in Netball. Pupils can also be encouraged to create their own games, either within these traditional problems or by encouraging them to create their own movement problems (Hastie, 2010). Therefore, the complexity of potential content across movement problems, developmental phases and strands of learning, is too great here to present.

The Movement Problems which provide the structure for Gymnastics in Table 5 are based upon Newlove and Dalby's, (2005) exploration of Laban's analysis of movement. These Movement Problems need to be investigated together within the context of the 'Movement Themes', which are based upon an analysis of gymnastic teaching resources (see Malmber, 2003; Werner, 2004). The Movement Themes are a necessary consequence of the aesthetic nature of gymnastics and may be explored individually or in combination through the pathways created by Crum's (1993) learning strands. Table 3 and Table 5 are presented to provide examples of how specific learning outcomes can be developed post the analysis of learning processes in Table 2 and Table 4. For example, on the basis of appropriate assessment of pupils' learning needs, a teacher may use Table 2 to develop a unit of work for Swimming

Table 5. Movement problems created by gymnastics and examples of learning across the Technomotor, Sociomotor, Cognitive/Reflective and affective strands

	Examples of learning outcomes to support Technomotor, Sociomotor, Cognitive/Reflective and affective learning				
Movement problems	Early years play	Fundamental movement skills phase (Gymnastic)	Specialised movement phase	Specialised activity phase	Example movement themes
What? What body action? E.g. Jump, roll, step, twist, turn, balance, vault.	Cognitive/Reflective: Recognise concepts of movement actions and directions through the use of travelling actions to explore space around the self, others, on the floor and round simple apparatus.	Cognitive/Reflective: Understanding how the sequencing of actions can produce a fluid exploration of space around the floor and apparatus, taking different pathways and achieving movement at different levels. Combine ideas with others to create new solutions.	Cognitive/Reflective: Reflect upon decisions made to create movement sentences which explore the themes of travelling, flight, balancing and joining movements. Use a simple framework to support the improvement of movement sentences created by others focusing on fluidity and changes in shape.	Cognitive/Reflective: Reflect upon the sequencing of skills to develop fluid movement sentences. Construct a framework to support the improvement of the quality of other's work. Use an understanding of how to breakdown movements to support others in developing their technical expertise.	Travelling: On, off, over, through, up, down and along.

Table 5 (Continued)

	Examples of learning outcomes to support Technomotor, Sociomotor, Cognitive/Reflective and affective learning				
Movement problems	Early years play	Fundamental movement skills phase (Gymnastic)	Specialised movement phase	Specialised activity phase	Example movement themes
Where? Where in the space does the movement take place? E.g. Within personal space, spaces created by apparatus or others using Pathways; around, across, through between, over, along, Directions; up, down, backwards, forwards, left, right, sideways, Levels; low, high, medium, low to high, high to low.	Affective: Respond and enjoy seeking solutions to movement problems which require moving around, on/off, through, over and along the floor and apparatus.	Affective: Show a commitment to solving movement problems individually and with others. Understand the importance of ownership of ideas and actions when performing them to others.	Affective: Practice and refining a small group sequence and perform this to larger groups of peers. Follow a regular, short conditioning programme to develop flexibility, static strength and power.	Affective: Show perseverance and commitment to practice to improve a personally challenging sequence of movements which will increase the technical difficulty of a small group sequence. Perform this sequence as part of an intra-class event designed and run by the class. Construct and adopt a role e.g. coach or official which will facilitate the running of the class event.	Flight: Up and down, over, using different body parts and in different shapes.

Table 5 (Continued)

Movement problems	Examples of learning outcomes to support Technomotor, Sociomotor, Cognitive/Reflective and affective learning				Example movement themes
	Early years play	Fundamental movement skills phase (Gymnastic)	Specialised movement phase	Specialised activity phase	
How? How does the body use its energy? E.g. - Speed; sustained, slow, fast, - Dynamic; powerful, gentle - With tension and extension	Sociomotor: Contributing to a code of conduct to support a safe movement environment, recognising the importance of considering space around the self, others and equipment.	Sociomotor: Explore individually and share with others solutions to movement problems. Take turns to exchange ideas. Explore the challenges and benefits of working with others to solve movement problems.	Sociomotor: Work in small groups to develop solutions to movement problems, advising and supporting others to develop the quality of their movement sentences. Develop an understanding the role of balanced and focused feedback.	Sociomotor: Work in small groups to develop movement sentences which explore different compositional concepts and apparatus. Taylor this group sequence to include and maximise different levels of technical ability. Explore how working individually, in pairs and small groups can help and hinder this process of composition.	Balancing: On large and body parts, showing shape through tension and extension.

Table 5 (Continued)

	Examples of learning outcomes to support Technomotor, Sociomotor, Cognitive/Reflective and affective learning				
Movement problems	Early years play	Fundamental movement skills phase (Gymnastic)	Specialised movement phase	Specialised activity phase	Example movement themes
With? With whom or what does the body move? E.g. - Co-ordination of body parts - Use of apparatus - With other people: timings; unison cannon, contrasting, complementing, mirroring, matching shadowing.	Technomotor: Explore different methods of moving on feet, hands and feet, back and tummy, recognising the physical demands of co-ordinating different parts of the body created by these actions.	Technomotor: Explore and develop tension and extension of the body to perform different travelling actions in different body shapes. Explore how body shapes can be used to control momentum and create fluidity of movement. Perform different combinations of skills with fluidity.	Technomotor: Develop movement efficiency through the control of forces in e.g. Balancing Á positioning of the centre of gravity over base of support or e.g. Rotational Resistance Á finding efficient body shapes in which to roll, twist and turn. Maximise lines of the body created by the trunk, arms legs and head through the control of tension and extension, to create aesthetic shapes.	Technomotor: Explore specialised balance skills involving full inversion of the body and flight skills involving moving over apparatus. Integrate these skills with a range of specialised travelling actions to create a sequence of movement which achieves fluidity through control of momentum. Join these movements to an appropriate tempo of a piece of music.	Joining movements: Fluid weight transfer, linking actions and constructing movement sequences.

which focuses upon the Sociomotor and Technomotor strand. The teacher may decide that Co-operative Learning is an appropriate pedagogical model to facilitate this learning. In order to develop more specific learning outcomes the structure of Table 3 supports the identification of potential learning outcomes within different Movement Problems created by Swimming. Within the context of Co-operative Education, the teacher may therefore, use the Sociomotor and Technomotor strands within the Movement Problem of 'Initiating movement through the water and changing direction' to develop and identify these learning outcomes. The exploration of the Movement Problems within each strand of learning, however, is not exclusive as using the floor and wall of a pool to propel the body through the water, will inherently demand Cognitive/Reflective learning, built upon Affective learning.

Table 3 and Table 5 are not exhaustive and serve to represent examples of the breadth of learning outcomes which can be developed through a critical appreciation of Swimming and Gymnastics across cognitive, emotive, social and psychomotor learning domains. Table 1ÁTable 5 are presented to demonstrate the portability of their structures to different forms of physical activity and thus support teachers in developing coherent rationales for pedagogical practice across their Physical Education curricula which in turn reflect evolutions in Movement Culture.

Summary

Murdoch's (1990) Integration Model has been identified by Pope (2011) as a useful starting point to examine appropriate pedagogy for the strengthening interface between Sport and Physical Education. Whilst SE, TGfU and hybrids, offer potential pedagogical tools to conduct such work, widespread familiarity and expertise with their use within Primary and Secondary Education in the UK remains unclear. Tinning (2010, p. 64) argues that no 'Holy Grail' of Physical Education pedagogy exists and practice will always be exposed to the logistical realities of class sizes and facilities. Movement Culture offers a useful alternative conceptual vantage point from which to seek to strengthen the integration of Sport and Physical Education. Embracing the latter within Movement Culture acknowledges the need for subject matter to reflect societal shifts towards greater individualisation and means of seeking self-realisation. Crum (1993) proposes a rationale for Physical Education with Movement Culture which maintains the subject's educational focus whilst developing meaningful subject matter and contextualised learning, reflecting contemporary and evolving Sport participation. Frameworks based upon Crum's (1993) conception of learning within physical education as an integral part of Movement Culture are presented which seek to explore potential learning processes which connect both Sport and Physical Education. The structure of these frameworks aims to provide sufficient portability to different forms of physical activity, enabling different activity areas to be employed as potential subject matter and thus track developments in Movement Culture. The frameworks also have the potential to support a more coherent rationale for pedagogical practice across Physical Education curricula.

References

Albrow, M. (1997) The global age (Stanford, CA, Stanford University Press).
Anderson, T. (1995) The movement and the sixties (Oxford, Oxford University Press).
Bauman, Z. (1992) Intimations of postmodernity (London, Routledge).
Beck, U. (1998) Democracy without enemies (Cambridge, Polity Press).
Beck, U. (2011) The cosmopolitan manifesto, in: D. Held & G. Brown (Eds) The cosmopolitanism reader (Cambridge, Polity Press), 217Á228.
Beck, U. & Beck-Gernsheim, E. (2001) Individualization (London, Sage).
Beck, U., Bonss, W. & Lau, C. (2003) The theory of reflexive modernization: problematic, hypotheses and research programme, Theory Culture Society, 20(2), 1Á33.
Beck, U., Giddens, A. & Lash, S. (1994) Reflexive modernization: politics, tradition and aesthetics in the modern social order (Cambridge, Polity Press).
Best, D. (1978) Philosophy and human movement (London, Allen and Unwin).
Bloom, B. (Ed.) (1956) Taxonomy of educational objectives, the classification of educational goals Á Handbook I: cognitive domain (New York: McKay).
Booth, D. & Thorpe, H. (Eds) (2007) Berkshire encyclopaedia of extreme sports (Great Barrington, MA: Berkshire Reference Works.)
Brettschneider, W. D. (1992) Adolescents, leisure, sport and lifestyle, in: T. Williams, L. Almond & A. Sparkes (Eds) Sport and physical activity: moving towards excellence Á the proceedings of the AIESEP World Convention (London, Spon), 536Á550.
Capel, S. (2007) Moving beyond physical education subject knowledge to develop knowledgeable teachers of the subject, Curriculum Journal, 18(4), 493Á507.
Casbon, C. & Walters, L. (2004) The English approach to collecting information on the quality of Physical Education and School Sport (PESS) in English schools and its impact on young people and whole school improvement, paper presented at the Australian Association for Research in Education (AARE), Melbourne.
Crum, B. (1993) Conventional thought and practice in physical education: problems of teaching and implications for change, Quest, 45, 339Á356.
Crum, B. (1994) Changes in movement culture: challenges for sport pedagogy, Proceedings from the AISEP conference, 2, Sport Leisure and Physical Education, Trends and Developments, Berlin, Germany.
Davis, P. (2007) A consideration of the normative status of skill in the purposive sports, Sport, Ethics and Philosophy, 1(1), 22Á32.
Department for Education and Skills (DES) & Department for Culture Media and Sport (DCMS) (2003) Learning through PE and Sport: a guide to the physical education, school sport and club links strategy (Nottingham: DfES Publications).
Department for Education and Skills (DfES)/Department for Education and Skills and Department for Culture Media and Sport (DCMS) (2004) High quality PE and sport for young people (Annsely: DfES Publications).
Department for Children Schools and Families (DCSF) (2008) PE and sport strategy for young people (London: Department for Children, Schools and Families).
Evans, J. (2012) Physical education as porn! Physical Education and Sport Pedagogy,, i-first article, Available online at: http://www.tandfonline.com/doi/abs/10.1080/17408989.2011.631002 (accessed 5 March 2012).
Flintoff, A., Foster, R. & Wystawnoha, S. (2011) Promoting and sustaining high quality physical education and school sport, European Physical Education Review, 17(3), 341Á351.
Gagne, R. M. (2004) Domains of learning, in: R. M. Gagne, L.J. Briggs, K. Golas & J. Keller (Eds) Principles of instructional design (5th edn) (Independence, Kentucky, Wadsworth Publishing), 87Á105.
Gallahue, D. & Donnelly, F. (2003) Developmental physical education for all children (4th edn) (Leeds, Human Kinetics).

Gard, M. (2004) Movement, art and culture: problem solving and critical enquiry in dance, in: J. Wright, D. Macdonald & L. Burrows (Eds) Critical enquiry and problem solving in physical education (London, Routledge), 93Á105.
Giddens, A. (1991) Modernity and self-identity: self and society in the late modern age (Oxford, Polity Press).
Gilchrist, P. & Wheaton, B. (2011) Lifestyle sport, public policy and youth engagement: examining the emergence of parkour, International Journal of Sport Policy and Politics, 3(1), 109Á131.
Gove, M. (2010) Letter to Baroness Sue Campbell President of Youth Sport Trust. Circulated 20 October.
Green, K. (2008) Understanding physical education (London, Sage).
Griggs, G. & Ward, G. (2010) Cogs in the machine: unheard voices of primary link teachers, Primary Physical Education Matters, 5(1), iiiÁiv.
Hastie, P. (2010) Student designed games: strategies for promoting creativity, cooperation and skill development (Champaign, IL, Human Kinetics).
Hastie, P. & Curtner-Smith, M. (2006) Influence of a hybrid sport education*teaching games for understanding unit on one teacher and his students, Physical Education and Sport Pedagogy, 11(1), 1Á27.
Heale, M. (2001) The sixties in America: history, politics and protest (Edinburgh, Edinburgh University Press).
Holland, J. & Thomson, R. (1999) Respect*youth values: identity, diversity and social change. ESRC Children 5Á16 Research Programme Briefing (London, ESRC).
Houlihan, B. & Green, M. (2006) The changing status of school sport and physical education: explaining policy change. Sport, Education and Society, 11(1), 73Á92.
Hunter, L. (2006) Research into elementary physical education programs, in: D. Kirk, D. Macdonald & M. O'Sullivan (Eds) Handbook of physical education (London, Sage), 580Á581.
Kirk, D. (1992) Physical education, discourse and ideology: bringing the hidden curriculum into view, Quest, 44, 35Á56.
Kirk, D. (1999) Physical culture, physical education and relational analysis, Sport education and Society, 4(1), 63Á73.
Kirk, D. (2010) Physical education futures (London, Routledge).
Kirk, D. & Gorley, T. (2000) Challenging thinking about the relationship between school physical education and sport performance, European Physical Education Review, 6(2), 119Á134.
Kirk, D. & Kinchin, G. (2003) Situated learning as a theoretical framework for sport education, European Physical Education Review, 9(3), 221Á236.
Kirk, D. & Macdonald, D. (1998) Situated learning in physical education, Journal of Teaching in Physical Education, 17, 376Á387.
Lubbe, H. (1988) Mencshen im Jahr 2000. Rahmenbedinggungen fur die kunftige Entwicklung des Sports, (Ed.) K-H. Giesler, O. Grupe & K. Heinmann (Hrsg.) Dokumentation des Kongresses 'Menschen im Sport 2000' (Schorndorf, Hofmann), 32Á43.
Lyotard, J.-F. (1984) The postmodern condition (Minneapolis, MN, University of Minnesota Press).
Malmber, E. (2003) Kidnastics: a child centred approach to teaching gymnastics (Leeds, Human Kinetics).
Murdoch, E. (1990) Physical education and sport: the interface, in: N. Armstrong (Ed.) New directions in physical education (Champaign, Human Kinetics), 63Á78.
Newlove, J. & Dalby, J. (2005) Laban for all (London, Nick Hern Books).
O'Connor, A. & MacDonald, D. (2002) Up close and personal on physical education teachers' identify: is conflict and issue? Sport, Education and Society, 7(1), 37Á54.
Penney, D. (2000) Physical education, sporting excellence and educational excellence, European Physical Education Review, 6(2), 135Á150.
Penney, D. & Chandler, T (2000) Physical education: what future(s)? Sport Education and Society, 5(1), 71Á87.

Pope, C. (2011) The physical education and sport interface: models, maxims and maelstrom, European Physical Education Review, 17(3), 273Á285.
Prout, A. (2000) Children's participation: control and self-realisation in British late modernity, Children and Society, 14, 304Á315.
Sandford, R. & Rich, E. (2006) Learners and popular culture, in: D. Kirk, D. Macdonald & M. O'Sullivan (Eds) The handbook of physical education (London, Sage), 275Á291.
Schempp, P. (1993) Constructing professional knowledge: a case study of an experiences high school teacher, Journal of Teaching in Physical Education, 13, 2Á23.
Sport England (2006) Active people survey. Available online at: http://www.sportengland.org/research/active_people_survey/active_people_survey_1.aspx (accessed 12 February 2012).
Sport England (2007) Active people survey. Available online at: http://www.sportengland.org/research/active_people_survey/active_people_survey_1.aspx (Accessed 12 February 2012].
Tinning, R. (2002) Engaging siedentopian perspectives on content knowledge for physical education, Journal of Teaching in Physical Education, 21, 378Á391.
Tinning, R. (2010) Pedagogy and human movement: theory, practice, research (London, Routledge).
Tomlinson, A., Ravenscroft, N., Wheaton, B. & Gilchrist, P. (2005) Lifestyle sport and national sport policy: an agenda for research: report to Sport England (March). Available online at: http://www.sportengland.org/search.aspx?query 0lifestyle ' sport ' and ' national ' sport ' policy (Accessed 12 February 2011).
Tsangaridou, N. (2006) Teachers' beliefs, in: D. Kirk, D. Macdonald & M. O'Sullivan (Eds) The handbook of physical education (London, Sage), 486Á501.
Ward, G. (in press) Examining primary school physical education coordinators' pedagogical content knowledge of games: simply playing? Education 3Á13.
Ward, G. & Griggs, G. (2011) Principles of play: a proposed framework towards a holistic overview of games in primary physical education, Education 3Á13, 39(5), 499Á516.
Werner, P. (2004) Teaching children gymnastics (2nd edn) (Leeds, Human Kinetics).
Whitehead, N. & Hendry, L. (1976) Physical education and training in England (London, Lepus Books).
Wright, J. (1996) Mapping the discourses of physical education: articulating a female tradition, Journal of Curriculum Studies, 28(3), 331Á351.

Appendix 2.

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Physical Education in the UK: disconnections and reconnections

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Within the UK, physical education finds itself, as a curriculum subject, in a contested space with felt pressures from competing discourses and policy areas. This paper contests that over time within this nexus, physical education has become disconnected in four specific ways: from the wider movement culture, from other curriculum subjects, within the curriculum between different age phases and between training and teacher needs. The paper discusses each of these disconnections and, importantly, offers suggestions about how reconnections might be found.

Keywords: physical education; curriculum; teacher training; subject knowledge

Introduction

Within the UK, physical education finds itself, as a curriculum subject, in an arguably unique position – in a ‘crowded and contested policy space’ (Penney 2008, 35) with felt pressures from three competing discourses a policy areas, namely education, sport and health (Houlihan and Green 2006). For example, the sport discourse competes with discourses surrounding the purpose of physical education within schools, such as physical activity for the purposes of health and issues surrounding the discourse of ‘healthism’ (Evans, Rich, and Davies 2008), as well as competing with discourses of education surrounding issues related to the content of physical education in the school curriculum and their educational objectives (Capel 2007). Consequently, as important policy areas, education, sport and health have served as powerful attractors tha have influenced and shaped what physical education has become over time. Though issues of commonality may be found across the world, it is the movement culture within which physical education is located that serves to highlight specific areas for critical discussion (Crum 1993).

Movement culture is ‘an umbrella concept which comprises all leisure actions in which the human moving act is the essence’ (Crum 1994, 115)

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A common term within German and Dutch languages (avoiding the mind-body dualism of 'physical culture'), it more specifically:

> refers to the way in which a social group deals with the need and desire for movement beyond labour or maintaining life. Movement culture contains the set of movement actions and interactions (sport, play, dance, or other fitness activities) that encompass a group's leisure. (Crum 1993, 341)

Movement cultures are of course incredibly diverse and reflective of different times and spaces. Comparison of traditional dances and related costumes and music from across the world is illustrative of such a concept. As with any concept of culture, movement cultures are also susceptible to change and influence. Parallels here can be found with food. What we ate a century ago contrasts markedly with our diets and choices of today, with our consumption extending beyond the sole need for survival.

This paper contests that within the UK, as physical education and its various facets, such as curriculum and pedagogy, have evolved within the nexus of the competing agenda of powerful attractors, it has become disconnected in four specific ways. Firstly, physical education has become disconnected from the wider movement culture. Secondly, it has become disconnected from other curriculum subjects. Thirdly, physical education has become disconnected within the curriculum between different age phases; fourthly, there is a disconnection between training and teacher needs. This paper will discuss each of these four disconnections and, importantly, offers suggestions about how reconnections might be found.

Disconnection from the wider movement culture

Within UK movement culture 'sport' has occupied a dominant position, traditionally conceived of as a highly competitive activity in which the achievement motive has remained uppermost. As a consequence, pedagogically, a skills-focused approach (typical of sports) has been pervasive for generations within both coaching and teaching structures (Whitehead and Hendry 1976). Physical education has continued to be delivered using a limited range of teaching approaches, the most prevalent of which are formal, didactic and teacher-centred (Green 1998; Curtner-Smith 1999; Metzler 2000; Kirk and Kinchin 2003; Kirk 2010). Over time the discourse has shifted 'away from valuing individual creativity and problem solving towards performance, away from process to product' (Wright 1996, 340). Subsequent curriculum designs over the past half-century have continued to draw upon these ideas, with their related forms providing the basis for most current physical education programmes (Kirk 2003).

However, Crum (1994, 118) indicates that in recent times, the broader cultural landscape and 'the movement-cultural landscape has drastically

changed'. Beck (2011) terms this cultural shift a move from first modernity to second modernity. In this perspective, modern social relations are initially conceived as 'contained' territory (on a national, regional and local level) and most institutions boast an integrated relation to the nation-state. The freedom and equality of its individuals are moulded by powerful social institutions which they strongly adhere to and are disciplined by, such as the workplace (factories and unions), school and the church (Beck et al. 2003). By contrast, in second modernity, society is far more globalised (and borderless), facilitated by developments in technology. Changes in family and working practices and roles have also occurred – most notably the shift towards egalitarian viewpoints on gender (Beck and Beck-Gernsheim 1995). More intense political individualisation has also developed a consumerist and choice-driven society which sees less legitimacy in traditional social institutions (Beck and Beck-Gernsheim 2001). Beck (2011, 281) concludes that this leaves us with 'a new kind of society and a new kind of personal life [. . .] coming into being'.

In this new society, traditional collective organisations such as the church, school, labour unions and family command less power than they once did (Giddens 1991). Rather than choosing to be seen to have prescribed or standard identities through memberships and affiliations, there is an unabated trend toward people coming to think of themselves as unique individuals, exercising self-consciousness, creativity and agency (Prout 2000). In relation to young people, Beck (1998, 78) suggests that within western cultures this concept of individualisation is so strong that they: '. . . no longer become individualized. They individualize themselves. The ''biographization'' of youth means becoming active, struggling and designing one's own life' (Beck 1998, 78). The traditional values espoused by dominant sporting forms and traditional physical education practice represent the antithesis of this viewpoint. Holland and Thomson (1999) indicate that the prevailing attitude on the part of young people, in empirical findings, thrives in new kinds of institutions in which authority and allegiance must be constantly renegotiated, re-established and earned. In short, in an increasingly individualised world, young people articulate an: 'ethic of reciprocity arguing that their respect could be won by anyone who respected them . . . they tend to be very wary of claims to authority and respect on the basis of tradition, custom or force' (Prout 2000, 308).

As it stands, physical education as currently taught in UK schools increasingly fails to engage young people and thus fails to prepare them to become active creators and consumers of the varied forms of physical activity available outside school (Sandford and Rich 2006). The sad result of this, at a time when obesity rates are rising and populations are becoming increasingly sedentary (Green 2002; Fairclough and Stratton 1997), is the alienation of a significant number of those young people (Kirk and Macdonald 1998). Low participation in a physically active,

healthy lifestyle is a major concern, exacerbated by the cycle of reproduction of curriculum and practice within physical education. This process has proven to be enduring and surprisingly resistant to change (Tsangaridou 2006). As such, the potential for further dissatisfaction and disengagement from physical education remains extremely high.

Perhaps the most obvious way forward here is to embrace Crum's (1994, 116) proposal that: 'physical education should be arranged in view of learning with utility value for the movement culture outside the school [maximising] its potential to qualify youngsters for an emancipated, satisfying and lasting participation'. The viewpoint of emancipation for young people has resonance with the ideals of second modernity and could be embraced rather than resisted. This might, therefore, include a movement culture which allows growing children opportunities, such as learning to swim and ride a bike, but also supports their progress through a multitude of activities and experiences which they may need in later life. Crum (1992) considers that the activities children need to be prepared for to support their active participation within the wider movement culture may include elite sport, competitive club sport, recreation sport, fitness sport, risk and adventure, lust sport and cosmetic sport. Though these and other classifications may be debated, what is clear is the need to make physical education relevant to more young people and to reconnect it to the wider movement culture. To achieve this reconnection, its position needs to be more reflective of the era of second modernity, as opposed to the era of first modernity in which it was conceived.

Disconnection from other curriculum subjects

The marginalisation of physical education within school curricula is deeply rooted in philosophical thought in which the physical is considered subordinate to the mental. Such Cartesian perspectives on a mind-body split continue to pervade western European approaches to education, in which the physical remains separate from and inferior to cognitive activity (Sparkes, Templin, and Schempp 1990). This elevated status of intellectual labour over physical work is reflected in relationships between work and play, where work activities are held in high esteem due to the significant level of seriousness involved and play is marginalised and inconsequential (Kirk et al. 1986b). Schools continue to assume this mind-body dichotomy and position play-like physical activities, upon which physical education depends, as areas of the curriculum which offer pupils a break from the 'real work' in the classroom (Giroux 1983; Kirk 1988; Jess 2010). This recreative contribution to the informal, hidden school curriculum has consequently become the justification for the placing of physical education in the lower echelons of a hierarchy of subjects within the formal curriculum (Kirk 1992; Capel 2007).

The denunciation of sports as merely requiring pupils to learn a 'knack' or 'trick', and thus offering little in the development of educational understanding, serves to illustrate the peripheral position of physical education in comparison with subjects that are deeply rooted within rational forms of knowledge, such as science and mathematics (Peters 1996). Long-standing debate over the educational value of physical education centres on lines of argument stemming from what educational activity is and should be. In distinguishing between schooling and education, Carr (1997) argues that physical education becomes part of a rich collection of activities which may or may not have educational value, but nevertheless retain a valuable role in developing a pupil's understanding and ability to function in our world. Despite such perspectives, the clamour of physical education departments to offer courses with examination accreditation at Key Stages 4 (pupils aged 14–16) and 5 (pupils aged 16–18) is an example of Reid's (1997) favoured approach: redefining the subject into a sphere of academic study.

The attempts to reposition physical education as a subject worthy of academic study reflect what Kirk (2010, 6) refers to as the 'academicization' of physical education teacher training. By offering physical education equal footing and status with other routes of study in higher education, Kirk (2010) believes, the degree status awarded to Teacher Training in Physical Education has served to move the subject away from a sole field of study into growing 'sub-disciplines' of studies in 'Sport'. More significantly, he argues, theoretical study has pushed student engagement with practical physical activities aside and separated physical education students from the content they are required to teach. In this 'crisis of content knowledge', he believes, a pervasive and durable identity and mode of pedagogical practice of 'physical education as sport techniques' have been created and continually regenerated (Kirk 2011). This enduring and uniting feature of the subject suggests the existence of an implicit agreement among school practitioners which has served to construct a physical education landscape dominated by a 'sporting model' (Capel 2007, 494).

The reality of this practice amounts to the repetitive learning of techniques associated with a core curriculum of sports dominated by traditional games, which are not reflective of pupils' needs or the wider movement culture outside of school. Pupils face consistently regurgitated content focused upon the mastery of performance skills, more often than not abstracted from their movement contexts. Exploration and learning of activities are severely restricted by short lessons, limited curricular blocks of sports and teacher-directed learning. Despite the intention to facilitate development in the performance of these sport techniques, pupils' progression throughout their years at school remains very limited (Underwood 1983; Siedentop 2002; Capel 2007; Kirk 2010). The primary

aim of this version of sport culture is to engender pupils' love of sport – but, worryingly, it merely guarantees the development of the physically able (Evans 1992). Physical education subsequently serves as inadequate preparation for pupils to pursue a healthy, active lifestyle in adulthood (Kirk and Macdonald 1998).

Policy surrounding past and current iterations of the National Curriculum for Physical Education across all ages has embraced sport discourses of excellence and performance (Penney 2000) – none more so than recent policies such as the Physical Education School Sport and Young People (PESSYP) strategy and its predecessor, the Physical Education School Sport and Club Links (PESSCL) strategy. These have secured government investment based upon the reputed contribution that physical education makes to the hidden curriculum (Brettschneider 1999), identifying it as a tool to raise pupil attainment and facilitate whole school improvement (Casbon and Walters 2004; Capel 2007). However, the hand behind the tool has been primarily concerned with driving through policy and infrastructure couched in the language and practices of sport (Green 2008). The endorsement of this 'sportification' of physical education serves to confirm its peripheral role in the curriculum, subordinating it to the role of a sweetener to the medicine required to increase pupil attendance, behaviour and achievement.

Accompanying funding streams supporting the PESSCL and PESSYP strategies have endorsed the influx of external delivery agents into curricula of physical education. At the primary school level, the meagre funding given to schools for provision of statutory Planning, Preparation and Assessment (PPA) time has also heralded the increased delivery of physical education by inexpensive non-QTS personnel (Blair and Capel 2011). Despite concerns being raised over the breadth of the delivery of the National Curriculum for Physical Education – in particular the strands requiring pupils to contextualise and reflect upon their learning – the significant input of these sport specialists has merely lent considerable vigour to the enduring 'sporting model', particularly at the primary school level (Capel 2007; OFSTED 2005, 2009; Griggs 2010; Ward 2011). Within primary schools, class teachers have placed misconceived value upon the narrow subject knowledge exhibited by these sport coaches and as a result have willingly relinquished their physical education lessons to them (Ward 2011). Head teachers have also readily embraced these inexpensive solutions to their staffing issues (Griggs 2010).

In many respects, the emergence of pedagogical models such as sport education, co-operative education and tactical-games models is a response to the limitations of physical education as 'sport techniques' (Kirk 2010). By attempting to align curricular content with child-centred teaching strategies, these models encourage the provision of physical activity experiences which foster learning across the cognitive,

psychomotor and affective learning domains. However, guidance on how to manage learning within and between these domains relies heavily upon a teacher's knowledge and experience; as such, they remain problematic for inexperienced, non-specialist teachers (see Griffin and Sheehy 2004; Light and Georgakis 2005; Turner 2005). Research surrounding these models remains predominately confined to the pedagogical processes during their use, and knowledge of their adoption across schools continues to be very limited (see Hunter 2006). It appears that the enthusiasm met by the academic community has contrasted significantly with that of practising school teachers (Lauder 2001). At a policy level the publication of texts by government bodies, for example publications supporting high-quality physical education (QCA 2005), also needs to be approached with caution and should not be confused with substantive changes in pedagogical practices within physical education. Previous changes in curriculum documentation have done little to change the conservative landscape of physical education curricula (Curtner-Smith 1999). The content of this documentation, in particular the curriculum, must therefore serve to radically challenge current practice.

If government policy is to continue to centre on the role that physical education, school and community sport can play in social and health reform, life-long participation in movement culture must become an essential starting point for reconnecting the subject with its educational aims. Making 'sacred cows' of traditional sports and racing to adopt in-vogue youth activities in an attempt to make the subject culturally relevant will not suffice in achieving this reconnection (Crum 1994, 128). Rather than trying to predict the future landscape of movement culture, Crum (1994) believes decisions governing the inclusion of physical activities in physical education curricula should be based upon the relevance of a physical activity to the teaching-learning process. By placing learning at the forefront of the subject, Bloom's (1956) psychomotor, cognitive and socio-affective domains of learning become the key structure which reconnects physical education with broader educational aims. Moving away from an activity-based curriculum to one which is thematically orientated will enable learning to form the key structure through which pupils are supported in becoming successful, self-directed learners, with volition to pursue life-long involvement in healthy physical activity (Penney and Chandler 2000). It is suggested here that the strands of learning presented by Crum (1993) enable a greater connection to be made between learning and wider movement culture. These are:

. Technomotor – learning to solve the technical motor problems presented by moving in context;
. Sociomotor – learning to solve the social problems presented by moving and playing with and against others;

. Cognitive/reflective – learning to understand how to become more effective at solving movement problems through understanding the patterns and processes inherently involved;
. Affective – development of a positive bond with exercise, movement, play and sport.

Such an approach demands that learning should essentially be concerned with the process of solving movement problems in different contexts, rather than being led by specific sporting activities. According to Crum (1994), the development of a personal movement identity is a crucial factor in life-long involvement in movement culture; this necessitates pedagogy which centres upon the management of interrelationships between learning within these strands, and in particular the development of an understanding of the social making of movement culture. This entails ensuring that pupils understand that rules can and should be changed to support learning and enjoyment. Pedagogy should also empower pupils to value and organise fitness for health and become critical consumers of movement culture by understanding the powerful agents involved in sport.

Disconnections within the curriculum between different age phases

In many ways, the landscape of physical education and school sport has changed significantly in England over the past decade. The phased implementation of two consecutive national strategies has transformed the infrastructure of physical education and school sport, including the people who work within it and the way they interrelate. In October 2002 the PESSCL strategy invested in excess of £1½ billion into the UK infrastructure. Containing eight different strands (specialist sports colleges, sport coordinators, high quality physical education, gifted and talented, step into sport, professional development, school/club links and swimming), its overall objective was to enhance the take-up of sporting opportunities by 5–16-year-olds. This was determined through a public service agreement (PSA) which pledged to engage children in at least two hours' high-quality physical education and sport at school each week (DfES/DCMS 2003). In more recent times the expectation on staff to increase their delivery time was raised still further, with the addition of another injection of £3 billion through the introduction of the PESSYP strategy, which pledged to 'create a new ''5 hour offer''' for all (DCSF 2008).

These consecutive strategies serve to highlight the continual and interchangeable use of physical education and sport by both politicians and policy-makers (Kay 2003; Wright 2004). This trend, which has its origins in the Victorian era (see Mangan 1981), was recently reinvigorated by the publication of Raising the Game (Department of National Heritage

1995), which, in keeping with the Conservative 'back to basics' policies of the 1990s, extolled the virtues of participating in competitive team games and sport. This has served to preserve a dichotomy where primary education has become the site for a greater education focus, yet a more skill-orientated approach is required in the secondary sector (Lauder, Lowe, and Chawla-Duggan 2008; Wright 1996). Such values continue to be upheld by successive Labour and Conservative governments (Labour Party 1996; Department for Culture, Media and Sport 2000; Gove 2010) and underpin recent strategies (DfES/DCMS 2003; DCSF 2008).

The demise of the PESSYP strategy under the current Coalition government has seen further conflation of physical education and sport in the rhetoric and policy language surrounding the National Competition Framework (Gove 2010). Though the casual usage of terms such as physical education and sport may appear insignificant, the mixed messages that policy-makers communicate about policy direction lead to a confused picture (Adams and Griggs 2005). Illustrative of this point is the language used to describe the inception and establishment of specialist sports colleges (not specialist physical education colleges), the rationale of which is concerned with identifying and developing elite performers (Department for Culture, Media and Sport 2000). Within 12 months this had come to appear somewhat contradictory, with an iteration of the National Curriculum for Physical Education that espoused a vision of inclusion as a central theme (Department for Education and Employment/Qualifications and Curriculum Authority 1999) and a further government document that proclaimed the message of 'a sporting future for all' (Department for Culture, Media and Sport 2000).

In practical terms, a consequence of focusing on elite performance is that policies such as the PESSCL and PESSYP strategies emerge as clear 'top-down' models, with a large majority of time, money and resources being directed into the secondary sector via the specialist sports colleges. A further example of the 'top-down' model apparent within physical education in the UK was the review and implementation of a revised National Curriculum for all subjects, including physical education, for all Key Stage 3 pupils (pupils aged 12–14) (QCDA 2008). In this iteration the areas of focus were completely changed, but the structure of the curriculum in Key Stages 1 and 2 (pupils aged 11 or under) has not changed. This begs the question of how continuity and progression can realistically be achieved and how such a radical shift can result in the greater 'connectivity' sought at the launch of the national Association for Physical Education only two years earlier (Talbot 2006, 30).

Perhaps the most serious concern regarding a disconnected curriculum is the creation of a 'proficiency barrier' through which children find it difficult to move, caused by the absence of progressive steps that permit children to move from the simple activities of the early years to the more

complex activities of later childhood and beyond (NASPE 1995; Jess et al. 2004). In short, if children are unable to efficiently perform basic physical competencies such as throwing and catching a ball, they will find it difficult to participate successfully in physical activities requiring these skills at a later time. Ecological approaches to studying children's motor development have revealed that mature movement patterns are influenced not only by maturation but also by environmental factors including equipment, cue information and feedback (Goodway et al. 2002; Langerdorfer and Robertson 2002; Southard 2002; Whitall 2003), 'thus refuting the ''it happens naturally'' misconception' (Bailey et al. 2009, 8). With the most significant periods of development taking place almost entirely within the primary age range (Gallahue and Ozmun 1995), putting the right building blocks in place from the bottom up builds a much stronger and more sustainable curriculum model (see Gallahue and Ozmun 1995; Almond 1997; Jess et al. 2004; Haydn-Davies 2005; Griggs 2007).

Gaining progressive experience of competency is clearly an important condition for lifetime participation in movement culture. According to Crum (1993, 342):

> for such a satisfying and lasting participation, one must develop a repertoire of skills and knowledge so that exercising, playing, dancing, or sporting is possible without disgracing oneself and/or disturbing other participants. This competency repertoire does not come naturally to individuals; it can only be acquired in structured learning processes.

It is suggested here that the five key strands of learning presented earlier should be used to maximise the reconnection between different policy agendas and avoid future disconnections by allowing for a coherent yet flexible plan across the age ranges. Affective development, technomotor, sociomotor, cognitive and reflective competencies should form the key framework upon which to hang the chronological design of learning activities, providing a coherent platform from which practitioners can create progression and continuity. Their connection with wider movement culture should enable schools to deliver a broad range of activities, the rationale for the selection of which must centre upon pupils' needs and school facilities.

Disconnections between training and teacher needs

Analysis of the history of teacher education in the UK reveals a picture of erratic and incoherent change, driven by both providers of training and, more significantly, the overarching power of government policy from both sides of the political divide (Wetz 2010). In recent years the preparation of teachers has moved away from developing a critical insight into the role of pedagogy within the milieu of school, community and

society, and retreated to a simple set of reductionist and functional competencies (Kirk 1986; Alexander 2008; Wetz 2010). These reduce teaching to the acquisition of craft skills and, as a result, the role of the teacher has regressed to that of technician (Rossi and Cassidy 1999; Giroux 2009). The Department for Education Circular 9/92 (DfE 1992) was a watershed in contemporary teacher education, itemising the first list of competencies which trainees were required to fulfil by spending less time in university and significantly increased time in schools, under the direct supervision of a serving teacher. Preoccupied with knowledge, teaching and assessment, the recent revision of these competencies published in the Professional Standards for Qualified Teacher Status (TDA 2008) is shot through with language of instrumental control and fails to place the needs of young people at the heart of teaching (Wetz 2010). Reform of the routes through which to achieve qualified teacher status has seen the demise of four-year training courses and the rise of one-year postgraduate routes to qualified teacher status. Successive governments' claims to be creating a postmodern education system fit to meet the challenges of this century remain pipe dreams, particularly when a 36-week course is considered sufficient preparation to become a reflective, effective and visionary professional (Giroux 2009; Wetz 2010).

Disquiet about the value of teacher preparation has been voiced for the past 20 years, particularly with regard to the training offered to primary-level teachers in physical education (Caldecott, Warburton, and Waring 2006). A fundamental limitation to these courses has been the complete deficiency in time allocated to the subject (Clay 1999; Warburton 2001), which can amount to as little as nine hours on a 36-week Post Graduate Certificate of Education (PGCE) course and just five hours for students following School Centred Initial Teacher Training (SCITT) (Caldecott, Warburton, and Waring 2006). Despite the additional hours of experience gained during training placements in schools, the consequence of this deficiency in training is a low level of teacher confidence in delivering physical education, which is already apparent amongst non-specialists in the primary sector (DeCorby et al. 2005; Morgan and Bourke 2005, 2008). This cycle of poor student preparation is continually reinforced by mentors who have suffered similar scarce preparation and who are often reluctant teachers of physical education (Morgan and Bourke 2005, 2008; Stroot and Ko 2006). It is understandable that when faced with a crisis of confidence, teachers revert to their own personal experiences of being taught; this has manifested itself in the over-reliance on teaching skills and techniques learned largely during teachers' own secondary education, from external 'sporting' encounters or occasionally from limited training experiences (Capel 2007; Ofsted 2004, 2005, 2009; Kirk 1992, 2010; Ward 2011).

Despite the recent demise of the PESSCL and PESSYP strategies, the past 10 years have seen an unprecedented amount of funding flood into schools in a bid to increase the number of pupils taking part in physical education and school sport. The necessity to staff extra programmes of activities has demanded a significant increase in sports coaches working after school, and more worryingly, in the delivery of physical education (Lavin, Swindlehurst, and Foster 2008). This was facilitated by the 2003 Schools Workforce Remodelling Act, which encouraged headteachers to broaden their school workforce (DfES 2003; Gunter 2007). Demand for the provision of non-teaching Planning, Preparation and Assessment time (PPA) has exposed the marginal status allotted to physical education, with primary school headteachers handing over the teaching of many physical education lessons to inexpensive and readily available sports coaches (Blair and Capel 2008, 2011; Griggs 2010). By actively endorsing the sporting community within their curricula, this action has encouraged the prolific employment of coaches who have little understanding of the National Curriculum, very narrow pedagogical knowledge and practices, limited classroom management skills and inadequate personal knowledge of children and their individual needs and abilities (Griggs 2010).

The misplaced value placed upon sport-specific content knowledge and associated practices by primary school teachers leads to many sport coaches being considered physical education ‘specialists’ (Ward 2011). This contributes significantly to the provision of learning experiences in physical education that are limited to the acquisition of psychomotor skills and the placing of an unbalanced emphasis on traditional competitive sporting activities, a state of affairs far removed from the aims of the National Curriculum for Physical Education (Green 1998; Penney and Evans 1999; OFSTED 2005, 2009; Kirk and Kinchin 2003; Capel 2007; Griggs 2010; Ward 2011). As discussed earlier, much of the underlying cause of this is politicians’, policy-makers’ and teachers’ continual and mistaken conflation of physical education and sport (Kay 2003; Wright 2004). What results is the perpetuation of lessons in which children are being ‘busy, happy, and good’ (Placek 1983), with very little or no consideration of theoretical underpinning (Tinning 2006).

The reality of the enduring and pervasive influence of the ‘sporting model’ of physical education is reflected in the organisation of primary school curricula, in which repeated tasters of specific sports are offered, demonstrating how practices can become tightly wedded to narrow pedagogical content knowledge (see Ward 2011). It also reflects the ‘top-down’ influence of secondary curricular design on primary schools; despite attempts to review and re-iterate the national curriculum to alter this landscape, little has fundamentally changed in either curricula or pedagogical provision (Curtner-Smith 1999; Kirk 2010). The identity and practice of physical education as a collection of sport techniques

(Kirk 2010) is dominated by teachers operating within silos of specialist sporting knowledge and teaching practices, directly reflected in their personal experiences and interests (Capel and Katene 2000; Gower and Capel 2004; Hayes et al. 2007). There is little to break this cycle of practice when student teachers are provided with little time to reflect upon their own beliefs and practices and spend much greater amounts of time under the supervision of school mentors (Rossi and Cassidy 1999; Darling-Hammond 2000; Hobson 2002; Stroot and Ko 2006). One-stop shops offering technical training for student teachers provide scant opportunity for critical reflection on how trainees' experiences as learners influence their beliefs and approaches to teaching (Hardy 1999; Burgess 2000; Wetz 2010).

Childhood and adolescent experiences within sport and physical education have been shown to have a compelling influence upon teachers' conceptions of the activities they deliver during physical education lessons (Capel 2007). These experiences produce a set of robust beliefs about what they expect to experience during their training, and this can serve to reinforce rather than to challenge their existing viewpoints (Doolittle, Dodds, and Placek 1993; Lawson 1983a, 1983b; Solmon and Ashy 1995). Beliefs formed by trainee physical education teachers prior to their training are not easily changed, and research suggests that teacher training has relatively little impact on trainee teachers (Evans, Davies, and Penney 1996; Green 1998; Placek et al. 1995; Curtner-Smith 1999; Tsangaridou 2006). Research suggests that many physical education teachers are motivated to enter teaching because of their successes in sport, not in physical education (Stidder and Hayes 2006). These experiences, beliefs and values about the nature of physical education become crystallised through a process of occupational socialisation during initial training placements and first professional appointments, and continue to grow in structure and size as trainee teachers' perceptions of their role are shaped by their colleagues and the structures within which they are required to work (Lawson 1983a, 1983b; Curtner-Smith, Hastie, and Kinchin 2008). Within this process, coaching courses and personal experiences become dominant aspects of their pedagogical content knowledge, and this is reflected in their approach to teaching (Stroot and Ko 2006; Tsangaridou 2006; Capel et al. 2009). Exploration and development of their pedagogical content knowledge is ignored in favour of the immediate need to assimilate to the practices of the physical education departments in which they train and, more significantly, in the context in which they then work (Curtner-Smith, Hastie, and Kinchin 2008). Consequently, most new entrants to teaching continue to teach what and how they themselves were taught; any innovative ideas and practices developed during their training are pushed to one side and can become lost in the attempt to 'fit in' (Smyth 1995; Curtner-Smith 1997;

Williams and Williamson 1995, 1998; Capel 2007). Here we enter into a situation of 'more of the same', where physical education as teaching of sport techniques survives and serves to justify the continual provision of multi-sport activity curricula (Kirk 2010, 122), and teachers work within silos of specialist sports defined by the structures of beliefs, values and knowledge dominated by sport (Hayes et al. 2007).

Attempts to address concerns over teacher knowledge and teaching practices in both the primary and secondary school sectors have been made through Continuing Professional Development (CPD) programmes, traditionally characterised in physical education by 'all-you-need-to-know' one-day courses. Such programmes are rooted in the whims of funding streams and unsystematic planning, and often present eclectic menus of contemporary fads and fashions (Armour and Yelling 2004). Courses are often inadequate and superficial, leaving participants dissatisfied and cynical, and contribute little to teachers' learning and development (Armour and Yelling 2004; Wright et al. 2008; Atencio, Jess, and Dewar 2009). Significantly, the erosion of local government advisory services and the direction of funding though PESSCL and PESSYP development strands have tied CPD to the delivery of specific policy. The injection of funding through these avenues has opened up a market economy of CPD, with various National Governing Bodies (NGB) of sport, sports partnerships and commercial operators entering the fray, all with their eye on the cash. By identifying perceived gaps in the market, a plethora of supporting resources have become available to teachers, either in printed or in human form via the employment of sports coaches (Griggs 2008; Blair and Capel 2008, 2009). In both cases the focus on sport-specific content, particularly the organisation of technical practices and provision of hints and tips, simply serves to provide legitimacy to physical education as the teaching of sport techniques. The rise in the abundance of 'teacher-proof' curriculum packages reaffirms the subordinate role of the teacher as delivery agent, relinquishing teaching to predetermined content and an instructional procedure (Giroux 2009, 36). The need for development of wider physical education knowledge, critical reflection and evaluation of pedagogical knowledge and practices is ignored to ensure teachers and schools meet the development needs of the sporting NGBs (Ward 2011).

These dislocations between teachers' needs and the existing sources of professional training and development leave us with physical education that is dominated and constantly renewed by alienating forms of physical culture. The latter are extraneous to what should be a planned introduction to movement culture in which pupils are actively engaged in a critical and reflective enterprise that supports them in becoming lifelong, active and critical consumers of ever-changing movement culture (Crum 1994). Crum (1996, 9) argues that the 'physicalist' views of human movement and the 'decontextualized technical view' of sport which exists

in physical education teacher training programmes must be removed. He believes that continuing to base teacher education on a form of physical education which is bound up in 'education through the physical' and 'training of the physical' is fruitless and relies upon overcoming constraints within modern schooling, such as limited time and resources, which will never disappear (Crum 1996, 9). These perspectives do not place the 'teaching-learning construct' at the heart of physical education; in this vein, the subject will either die or merely continue to produce more of the same (Crum 1993, 352; Kirk 2010). The focal point of a reconnection between training and teachers' needs must be the development of teachers with portable pedagogical content knowledge which enables them to move naturally between different forms of movement culture. By moving away from teaching framed by silos of specific content knowledge and centred upon narrow examples of movement culture, the portability of this expertise will enable the design and progression of learning activities that engage learners in a balance of technomotor, sociomotor, cognitive/reflective and affective learning across a range of activities connected with wider movement culture.

At the teacher education level, movement towards a profession which develops this pedagogical expertise necessitates students to engage in two key processes: firstly, a narrative retrospection of student perceptions about schooling, sports and physical education should occur, in which existing and changing beliefs and values become the centre of an examination of movement culture as a basis of physical education; secondly, learning to teach must be organised through a process of observation, evaluation, planning and teaching that involves a continual cycle of switching from theory to teaching and back again. At the forefront of these processes, partners within teacher education must work to achieve a conceptual agreement which develops compatible ideologies of teaching-learning within physical education based upon a 'leitmotiv of learning to reflect' (Crum 1993, 352). To achieve such lofty ambitions, those within schools and universities need to recognise that the relationship between beliefs, learning and change is not a sequential process (Opfer, Pedder, and Lavicza 2010). Assuming that belief change leads to practice change or vice versa oversimplifies a complex process and isolating these elements ignores their entangled existence within the process of teachers' learning (Opfer, Pedder, and Lavicza 2010). By conceptualising physical education as a 'collaborative endeavour' that involves 'complex interactions amongst and between children, teachers, head teachers, local authority managers and policy makers', Atencio, Jess, and Dewar (2009, 1) argue that learning becomes a product of the changing relationships between these groups of stakeholders. Professional development which will lead to change in practice must be rooted in collaborative and reflective professional learning environments that put

the experiences and needs of teachers at the centre of learning. Consequently, continuing professional development programmes must become decentralised and adopt flexible structures, encouraging 'reflection and action' (Billet 2001) or pedagogical support which is 'intensive, on-going and connected to practice' (Darling-Hammond et al. 2009). When analysing the relationships between beliefs, practices and knowledge sources, teachers should be supported in reflecting upon the existing structure of their pedagogical content knowledge and encouraged to make connections within this knowledge. In focusing pedagogy on the promotion of learning through Crum's (1993) strands, teachers will need to develop their expertise in a variety of pedagogical practices. Most importantly, accompanying experimentation with these differing pedagogical approaches will be needed in order to broaden and deepen subject knowledge (Ward 2011).

Summary

Movement culture is a valuable lens through which we can view the human desire for movement beyond that of labour or the maintenance of life. It avoids the mind-body dualisms of physical cultures and reflects a diverse and continually changing aspect of humanity. Within UK movement culture, sport has traditionally occupied a dominant position, historically centring upon achievement determined through a competitive motive. Traditional forms of physical education do not connect with the growing individualisation, creativity and agency present in the second modernity, in which authority and allegiance are constantly renegotiated. When viewed in this way the subject appears to be characterised by a series of disconnections between wider movement culture, other curricular subjects, curriculum age ranges and professional training and teachers' needs.

Reconnecting physical education with wider movement culture requires the subject to reflect on the era of second modernity and relinquish its grip on traditional sports. According to Crum (1994), physical education should prepare children to take up an active, emancipated, satisfying and long-lasting participation within wider movement culture. This will require the teachers to draw upon a more diverse range of sporting cultures, such as elite sport, competitive club sport, recreation sport, fitness sport, risk and adventure, lust sport and cosmetic sport.

In adopting curricular structures and teaching approaches limited to the performance of techniques and competitive success, physical education has struggled to maintain its educational status. This has been exacerbated by successive government policies and strategies couched in the narrow discourses of traditional competitive sport. Reconnection with broad education aims can be achieved by embracing Crum's (1993) five strands of learning: technomotor and sociomotor competence,

cognitive/reflective competence and affective bonds. The development of the latter should, essentially, be concerned with the process of solving movement problems in different contexts, rather than being led by specific sporting activities. Central to this is the development of a personal movement identity in which understanding the social construction of movement culture becomes an important feature. This entails ensuring that pupils understand that rules can and should be changed to support learning and enjoyment. Pedagogy should value fitness for health and support pupils in becoming life-long critical consumers of movement culture by understanding the powerful agents involved in sport.

Gaining progressive experience of competency is an important condition for continuous participation in movement culture. Key to this is the development of a repertoire of skills and understanding, fostered through a structured learning process which enables competent and meaningful participation. The current National Curriculum for Physical Education and 'top-down' national policies have hampered curriculum coherence and progression across school age ranges. Crum's (1994) strands of affective development and technomotor, sociomotor, cognitive and reflective competencies should form the key framework to reconnect different policy agendas and provide a scaffold upon which to hang the chronological design of progressive and coherent learning activities which are connected with wider movement culture and not simply the teacher's own personal preferences.

The professional training of teachers within the UK is characterised by acquisition of reductionist and functional competencies. Disquiet about the value of teacher preparation has been voiced for the past 20 years, particularly with regard to the training offered to primary-level teachers to teach physical education. Deficiencies in time allocated to the subject and courses' lack of ability to impact on the personal beliefs of trainees have served to continually reinforce pedagogy dominated by the practices of competitive sport. This has been reinforced by government policy and expenditure that has encouraged schools to employ sports coaches and resulted in CPD programmes based upon the whims of funding streams and the agendas of sporting NGBs. At the heart of this disconnection between professional training and teachers' needs is the continued focus upon physical education as 'education through the physical' and 'training of the physical'. Such concepts rely upon overcoming constraints within modern schooling, such as limited time and resources, which will never disappear. Professional training should develop portable pedagogical content knowledge rather than silos of specific content knowledge. This will enable teachers to move naturally between different forms of movement culture and design progressive, engaging learning activities that balance technomotor, sociomotor, cognitive/reflective and affective learning.

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References

Adams, P., and G. Griggs. 2005. Cross-curricular or cross-purposes? An exploration of the relationship between Citizenship Education and Physical Education. Bulletin of Physical Education 41, no. 1: 23–42.

Alexander, R. 2008. Pedagogy, curriculum and practice. In Pedagogy and practice: Culture and identities, ed. K. Hall, P. Murphy, and J. Soler, 3–27. Milton Keynes: Open University Press.

Almond, L. 1997. Physical education in schools. 2nd ed. London: Kogan Page.

Armour, K., and M. Yelling. 2004. Continuing professional development for experienced physical education teachers: Towards effective provision. Sport, Education and Society 9, no. 1: 95–114.

Atencio, M., M. Jess, and K. Dewar. 2009. It is a case of changing your thought processes, the way you actually teach: Implementing a complex professional learning agenda in Scottish physical education. Paper presented at the British Educational Research Association annual conference, September 2–5, at the University of Manchester, UK.

Bailey, R., K. Armour, D. Kirk, M. Jess, I. Pickup, R. Sandford, and BERA Physical Education and Sport Pedagogy Special Interest Group. 2009. The educational benefits claimed for physical education and school sport: An academic review. Research Papers in Education 24, no. 1: 1–27.

Beck, U. 1998. Democracy without enemies. Cambridge: Polity Press.

Beck, U. 2011. The cosmopolitan manifesto. In The cosmopolitanism reader, ed. D. Held and G. Brown, 217–28. Cambridge: Polity Press.

Beck, U., and E. Beck-Gernsheim. 1995. The normal chaos of love. Cambridge: Polity Press.

Beck, U., and E. Beck-Gernsheim. 2001. Individualization. London: Sage.

Beck, U., W. Bonss, and C. Lau. 2003. The theory of reflexive modernization: Problematic, hypotheses and research programme. Theory, Culture & Society 20, no. 2: 1–33.

Billett, S. 2001. Learning thorough working life: Interdependencies at work. Studies in Continuing Education 23, no. 1: 19–35.

Blair, R., and S. Capel. 2008. Intended or unintended? Issues arising from the implementation of the UK Government's 2003 Schools Workforce Remodelling Act. Perspectives in Education 26, no. 2: 105–21.

Blair, R., and S. Capel. 2011. Primary physical education, coaches and continuing professional development. Sport, Education and Society 16, no. 4: 485–505.

Brettschneider, W.D. 1992. Adolescents, leisure, sport and lifestyle. In Sport and physical activity: Moving towards excellence – the proceedings of the AIESEP world convention, ed. T. Williams, L. Almond, and A. Sparkes, 536–50. London: Spon.

Burgess, H. 2000. What future for initial teacher education? New curriculum and new directions. The Curriculum Journal 11, no. 3: 405–17.

Caldecott, S., P. Warburton, and M. Waring. 2006. A survey of the time devoted to the preparation of primary and junior school trainee teachers to teach Physical Education in England. The British Journal of Teaching Physical Education 37, no. 1: 45–8.

Capel, S. 2007. Moving beyond physical education subject knowledge to develop knowledgeable teachers of the subject. The Curriculum Journal 18, no. 4: 493–507.
Capel, S., S. Hayes, W. Katene, and P. Velija. 2009. The development of knowledge for teaching physical education in secondary schools over the course of a PGCE year. European Journal of Teacher Education 32, no. 1: 51–62.
Capel, S., and W. Katene. 2000. Secondary PGCE PE students' perceptions of their subject knowledge. European Physical Education Review 6, no. 1: 46–70.
Carr, D. 1997. Physical education and value diversity: A response to Andrew Reid. European Physical Education Review 3, no. 2: 195–205.
Casbon, C., and L. Walters. 2004. The English approach to collecting information on the quality of Physical Education and School Sport (PESS) in English schools and its impact on young people and whole school improvement, Paper presented at the Australian Association for Research in Education (AARE) conference, November 29–December 2, in Melbourne.
Clay, G. 1999. Movement backwards and forwards; the influence of government on PE – an HMI perspective. The British Journal of Physical Education 30, no. 4: 38–41.
Crum, B. 1992. Over de Versporting van de Samenleving. Haarlem: De Vrieseborch.
Crum, B. 1993. Conventional thought and practice in physical education: Problems of teaching and implications for change. Quest 45, no. 3: 339–56.
Crum, B. 1994. Changes in movement culture: Challenges for sport pedagogy. In Proceedings from the AISEP conference, 2, Sport leisure and physical education, trends and developments, 114–31. Aachen: Meyer and Meyer.
Crum, B. 1996. Conceptual divergences in European PE teacher and sport coach education programmes: A pilot study. Paper presented to the Danish Sport Confederation, August, in Copenhagen.
Curtner-Smith, M.D. 1997. The impact of biography, teacher education, and organisational socialisation on the perspectives of first-year physical education teachers. Case studies of recruits with coaching orientations. Sport, Education and Society 2, no. 1: 73–94.
Curtner-Smith, M.D. 1999. The more things change the more they stay the same: Factors influencing teachers' interpretations and delivery of National Curriculum Physical Education. Sport, Education and Society 4, no. 1: 75–97.
Curtner-Smith, M.D., P.A. Hastie, and G.D. Kinchin. 2008. Influence of occupational socialization on beginning teachers' interpretation and delivery of Sport Education. Sport, Education and Society 13, no. 1: 97–117.
Darling-Hammond, L. 2000. How teacher education matters. Journal of Teacher Education 51, no. 3: 166–73.
Darling-Hammond, L., R. Chung Wei, A. Andree, N. Richardson, and S. Orphanos. 2009. Professional learning in the learning profession: A status report on teacher development in the United States and abroad. http://www.nsdc.org/news/NSDC study2009.pdf.
DeCorby, K., J. Halas, S. Dixon, L. Wintrup, and H. Janzen. 2005. Classroom teachers and the challenges of delivering quality physical education. The Journal of Educational Research 98, no. 4: 208–20.
Department for Children, Schools and Families (DCSF). 2008. Physical Education and Sport strategy for young people. London: DCSF.
Department for Culture, Media and Sport. 2000. A sporting future for all. London: DCMS.
Department for Education (DfE). 1992. Department for Education circular 9/92: New requirements for initial teacher training. London: HMSO.
Department for Education and Employment/Qualifications and Curriculum Authority. 1999. The National Curriculum in England: Physical education. London: Her Majesty's Stationery Office, HMSO.
Department for Education and Skills (DfES). 2003. Raising standards and tackling workload: A national agreement. London: DfES.
Department for Education and Skills/Department for Culture, Media and Sport (DfES/DCMS). 2003. Learning through physical education and sport: A guide to the Physical Education, School Sport and Club Links Strategy. London: DfES/DCMS.

Department of National Heritage. 1995. Sport: Raising the game. London: DNH.
Doolittle, S.A., P. Dodds, and J.H. Placek. 1993. Persistence of beliefs about teaching during formal training of preservice teachers. Journal of Teaching in Physical Education 12, no. 4: 355–65.
Evans, J., B. Davies, and D. Penney. 1996. Teachers, teaching and the social construction of gender relations. Sport, Education and Society 1, no. 2: 165–83.
Evans, J., E. Rich, and B. Davies. 2008. Health education or weight management in schools? Physical Education Matters 3, no. 1: 28–33.
Fairclough, S., and G. Stratton. 1997. PE curriculum and extra curriculum time: A survey of secondary schools in the north-west of England. British Journal of Physical Education 28, no. 3: 21–4.
Gallahue, D., and J. Ozmun. 1995. Understanding motor development: Infants, children, adolescents, adults. 3rd ed. Madison, WI: Brown & Benchmark.
Giddens, A. 1991. Modernity and self-identity. Self and society in the late modern age. Oxford: Polity Press.
Giroux, H. 1983. Theories and resistance in education. London: Heinemann.
Giroux, H. 2009. Teachers as transformatory intellectuals. In Kaleidoscope: Contemporary and classic readings in education, ed. K. Ryan and J. Cooper, 35–41. Belmont, CA: Wadsworth CENGAGE Learning.
Goodway, J.D., M.E. Rudisill, and N.C. Valentin. 2002. The influence of instruction on the development of catching in young children. In Motor development: Research and reviews, vol. 2, ed. J.E. Clark and J. Humphrey, 96–119. Reston, VA: American Alliance for Health, Physical Education, Recreation and Dance (AAHPERD).
Gove, M. 2010. Letter to Baroness Sue Campbell, President of Youth Sport Trust. Circulated October 20.
Gower, C., and S. Capel. 2004. Newly qualified physical education teachers' experiences of developing subject knowledge prior to, during and after a PGCE course. PE and Sport Pedagogy 9, no. 2: 165–83.
Green, K. 1998. Philosophies, ideologies and the practice of physical education. Sport, Education and Society 3, no. 2: 125–43.
Green, K. 2002. Physical education and the 'couch potato society': Part one. Physical Education and Sport Pedagogy 7, no. 2: 95–107.
Green, K. 2008. Understanding Physical Education. London: Sage.
Griffin, L., and D. Sheehy. 2004. Using the tactical games model to develop problem-solvers in physical education. In Critical inquiry and problem-solving in physical education, ed. J. Wright, D. Macdonald, and L. Burrows, 33–48. London: Routledge.
Griggs, G. 2007. Physical education: Primary matters, secondary importance. Education 3–13 35, no. 1: 59–69.
Griggs, G. 2010. For sale – primary physical education. £20 per hour or nearest offer. Education 3–13 38, no. 1: 39–46.
Gunter, H. 2007. Remodelling the school workforce in England: A study in tyranny. Journal for Critical Education Policy Studies 5, no. 1. http://www.jceps.com/index.php?pageID¼article&articleID¼84 (accessed September 30, 2011).
Hardy, C. 1999. Preservice teachers' perceptions of learning to teach in a predominantly school-based teacher education program. Journal of Teaching Physical Education 18, no. 2: 175–98.
Haydn-Davies, D. 2005. How does the concept of physical literacy relate to what is and what could be the practice of physical education? The British Journal of Teaching Physical Education 36, no. 3: 45–8.
Hayes, S., S. Capel, W. Katene, and P. Cook. 2007. An examination of knowledge prioritisation in secondary physical education teacher education courses. Teaching and Teacher Education 24, no. 6: 330–42.
Hobson, A.J. 2002. Student teachers' perceptions of school-based mentoring in initial teacher training. Mentoring and Tutoring 10, no. 1: 5–20.
Holland, J., and R. Thomson. 1999. Respect – youth values: Identity, diversity and social change. ESRC Children 5–16 Research Programme Briefing. London: ESRC.

Houlihan, B., and M. Green. 2006. The changing status of school sport and physical education: Explaining policy change. Sport, Education and Society 11, no. 1: 73–92.
Hunter, L. 2006. Research into elementary physical education programs. In Handbook of physical education, ed. D. Kirk, D. Macdonald, and M. O'Sullivan, 580–1. London: Sage.
Jess, M. 2010. Becoming an effective primary school physical education teacher. In Sport pedagogy: An introduction for teaching and coaching, ed. K. Armour, 271–86. London: Pearson.
Jess, M., K. Dewar, and G. Fraser. 2004. Basic moves: Developing a foundation for lifelong physical activity. British Journal of Teaching in Physical Education 35, no. 2: 23–7.
Kay, W. 2003. Physical Education R.I.P? British Journal of Teaching Physical Education 34, no. 4: 6–10.
Kirk, D. 1986. A critical pedagogy for teacher education: Toward an inquiry-orientated approach. Journal of Teaching in Physical Education 5, no. 4: 230–46.
Kirk, D. 1988. Educational reform, physical culture and the crisis of legitimation in physical education. Discourse: Studies in the Cultural Power of Education 19, no. 1: 101–12.
Kirk, D. 1992. Physical education, discourse and ideology: Bringing the hidden curriculum into view. Quest 44, no. 1: 35–56.
Kirk, D. 2003. Sport, physical education and schools. In Sport in society, ed. B. Houlihan, 143–64. London: Sage.
Kirk, D. 2010. Physical education futures. London: Routledge.
Kirk, D. 2011. The crisis of content knowledge: How PETE maintains the id2 of physical education-as-sport-techniques (part 3). Physical Education Matters 6, no. 2: 34–6.
Kirk, D., and G. Kinchin. 2003. Situated learning as a theoretical framework for sport education. European Physical Education Review 9, no. 3: 221–36.
Kirk, D., and D. Macdonald. 1998. Situated learning in physical education. Journal of Teaching in Physical Education 17, no. 3: 376–87.
Kirk, D., J. McKay, and L. George. 1986. All work and no play? Hegemony in the PE curriculum. Paper presented at the VIII Commonwealth and International Conference on Sport, Physical Education, Dance, Recreation and Health, July 18–23, in London, UK.
Labour Party. 1996. Labour's sporting nation. London: The Labour Party.
Langerdorfer, S.J., and M.A. Robertson. 2002. Developmental profiles in overarm throwing: Searching for 'attractors', 'stages' and 'constraints'. In Motor development: Research and reviews, vol. 2, ed. J.E. Clark and J. Humphrey, 1–25. Reston, VA: American Alliance for Health, Physical Education, Recreation and Dance (AAHPERD).
Lauder, A.G. 2001. Play practice. Leeds: Human Kinetics.
Lavin, J., G. Swindlehurst, and V. Foster. 2008. The use of coaches, adults supporting learning and teaching assistants in the teaching of physical education in the primary school. Primary Physical Education Matters 3, no. 1: ix–xi.
Lawson, H.A. 1983a. Toward a model of teacher socialisation in physical education: The subjective warrant, recruitment and teacher education (part 1). Journal of Teaching in Physical Education 2, no. 3: 3–16.
Lawson, H.A. 1983b. Toward a model of teacher socialisation in physical education: Entry into schools, teachers' role orientations and longevity in teaching (part 2). Journal of Teaching in Physical Education 3, no. 1: 3–15.
Light, R., and S. Georgakis. 2005. Integrating theory and practice in teacher education: The impact of a game sense unit on female pre-service primary teachers' attitudes towards teaching physical education. Journal of Physical Education New Zealand 38, no. 1: 67–80.
Mangan, J.A. 1981. Athleticism in the Victorian and Edwardian public school. Cambridge: Cambridge University Press.
Metzler, M., ed. 2000. The physical education teacher education assessment project. Journal of Teaching in Physical Education (special edition) 19, no. 4: 293–309.
Morgan, P., and M. Bourke. 2005. An investigation of pre-service and primary school teacher perspectives of PE teaching confidence and PE teacher education. ACHPER Healthy Lifestyles Journal 52, no. 1: 7–13.

Morgan, P., and S. Bourke. 2008. Non specialist teachers' confidence to teach PE: The nature and influence of personal experiences in schools. Physical Education and Sport Pedagogy 13, no. 1: 1–29.
National Association for Physical Education (NASPE). 1995. Moving into the future: National physical education standards: A guide to content and assessment. St Louis, MO: Mosby.
Office for Standards in Education (Ofsted). 2004. Physical education in secondary schools. London: TSO.
Office for Standards in Education (Ofsted). 2005. Physical education in primary schools. London: TSO.
Office for Standards in Education (Ofsted). 2009. Physical education in primary schools (2005–2008). London: TSO.
Opfer, D.V., D.G. Pedder, and Z. Lavicza. 2010. The role of teachers' orientation to learning in professional development and change: A national study of teachers in England. Teaching and Teacher Education 27, no. 2: 443–53.
Penney, D. 2000. Physical education, sporting excellence and educational excellence. European Physical Education Review 6, no. 2: 135–50.
Penney, D. 2008. Playing a political game and playing for position: Policy and curriculum development in health and PE. European PE Review 4, no. 1: 33–49.
Penney, D., and T. Chandler. 2000. Physical education: What future(s)? Sport, Education and Society 5, no. 1: 71–87.
Penney, D., and J. Evans. 1999. Politics, policy and practice in physical education. London: FN Spon/Routledge.
Peters, R.S. 1996. Ethics and education. London: Allen and Unwin.
Placek, J.H. 1983. Conceptions of success in teaching: Busy, happy, and good? In Teaching in physical education, ed. T. Templin and J. Olsen, 46–56. Champaign, IL: Human Kinetics Publishers.
Placek, J.H., P. Dodds, S. Doolittle, P. Portman, T. Ratliffe, and K. Pinkham. 1995. Teaching recruits' physical education backgrounds and beliefs about purposes for their subject matter. Journal of Teaching in Physical Education 14, no. 1: 246–61.
Prout, A. 2000. Children's participation: Control and self-realisation in British late modernity. Children and Society 14, no. 4: 304–15.
Qualifications and Curriculum Authority (QCA). 2005. Physical education, school sport and club links: What are you trying to achieve in PE and school sport? Annesley, Nottinghamshire: DfES Publications.
Qualifications and Curriculum Development Agency (QCDA). 2008. The National Curriculum for Physical Education at Key Stage 3 and 4. http://curriculum.qcda.gov.uk/ (accessed November 10, 2009).
Reid, A. 1997. Value pluralism and physical education. European Physical Education Review 3, no. 1: 6–20.
Rossi, T., and T. Cassidy. 1999. Knowledgeable teachers in physical education: A view of teachers' knowledge. In Learning and teaching in physical education, ed. C. Hardy and M. Mawer, 188–202. Lewes: Falmer Press.
Sandford, R., and E. Rich. 2006. Learners and popular culture. In The handbook of physical education, ed. D. Kirk, D. Macdonald, and M. O'Sullivan, 275–91. London: Sage.
Siedentop, D. 2002. Content knowledge for physical education. Journal of Teaching in Physical Education 21, no. 4: 368–77.
Smyth, D. 1995. First-year physical education teachers' perceptions of their workplace. Journal of Teaching in Physical Education 14, no. 2: 198–214.
Solmon, M.A., and M.H. Ashy. 1995. Value orientations of pre-service teachers. Research Quarterly for Exercise and Sport 66, no. 3: 219–30.
Southard, D. 2002. Control parameters for the development of throwing. In Motor development: Research and review, 2nd ed., ed. J.E. Clark and J. Humphrey, 26–8. Reston, VA: American Alliance for Health, Physical Education, Recreation and Dance (AAHPERD).

Sparkes, A., T. Templin, and P. Schempp. 1990. The problematic nature of a career in a marginal subject: Some implications for teacher education. Journal of Education for Teaching 16, no. 1: 3–28.
Stidder, G., and S. Hayes. 2006. A longitudinal study of physical education trainee teachers' experiences on school placements in the south-east of England (1994–2004). European Physical Education Review 12, no. 3: 317–38.
Stroot, S.A., and B. Ko. 2006. Induction of beginning physical educators into the school setting. In The handbook of physical education, ed. D. Kirk, D. Macdonald, and M. O'Sullivan, 425–48. London: Sage.
Talbot, M. 2006. afPE news: Progress and challenges for the Association. Physical Education Matters 1, no. 1: 30.
Tinning, R. 2006. Theoretical orientations in physical education teacher education. In The handbook of physical education, ed. D. Kirk, D. Macdonald, and M. O'Sullivan, 369–85. London: Sage.
Training Development Agency for Schools (TDA). 2008. Professional Standards for Qualified Teacher Status and requirements for initial teacher training (revised 2008). London: TDA.
Tsangaridou, N. 2006. Teachers' beliefs. In The handbook of physical education, ed. D. Kirk, D. Macdonald, and M. O'Sullivan, 486–501. London: Sage.
Turner, A.P. 2005. Teaching games for understanding at the secondary level. In Teaching games for understanding: Theory, research and practice, ed. L. Griffin and J. Butler, 71–89. Champaign, IL: Human Kinetics.
Underwood, G.L. 1983. The physical education curriculum in the secondary school: Planning and implementation. Lewes: Falmer.
Warburton, P. 2001. A sporting future for all: Fact or fiction? The British Journal of Teaching Physical Education 32, no. 2: 18–21.
Ward, G. 2011. Examining primary school physical education coordinators' pedagogical content knowledge of games: Simply playing? Education 3–13, iFirst article.
Wetz, J. 2010. Is initial teacher training failing to meet the needs of all our young people? Reading: CfBT Education Trust.
Whitall, J. 2003. Development of locomotor co-ordination and control in children. In Development of movement co-ordination in children, ed. G. Savelsbergh, K. Davids, J. van der Kamp, and S. Bennett, 107–32. London: Routledge.
Whitehead, N., and L. Hendry. 1976. Teaching physical education in England – description and analysis. London: Lepus.
Williams, J., and K.M. Williamson. 1995. Beginning to teach physical education: The inside stories. Dubuque, IA: Kendal/Hunt.
Williams, J., and K.M. Williamson. 1998. The socialisation strategies of first-year physical education teachers: Conflicts and concessions. Physical Educator 55, no. 2: 78–88.
Wright, J. 1996. Mapping the discourses of physical education: Articulating a female tradition. Journal of Curriculum Studies 28, no. 3: 331–51.
Wright, J., D. Konza, D. Hearne, and T. Okely. 2008. The gold medal fitness program: A model for teacher change. Physical Education and Sport Pedagogy 13, no. 1: 49–64.
Wright, L. 2004. Preserving the value of happiness in primary school physical education. Physical Education and Sport Pedagogy 9, no. 2: 149–63.

Appendix 3.

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Examining primary schools' physical education coordinators' pedagogical content knowledge of games: are we just playing as this?

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A detailed insight into how the current educational climate influences the pedagogical decisions made by primary school teachers when teaching games is limited. Studies examining the pedagogical content knowledge (PCK) of teachers within physical education have revealed its close relationship with specific forms of subject knowledge. In recognition of this, Veal and MaKinster's framework of general, domain and topic-specific PCK was employed to examine 12 primary school teachers' PCK of games. It was concluded that when personal experiences of pedagogy and content knowledge are unchallenged and reinforced by teachers' training and continuing professional development (CPD) programmes, very narrow topic-specific PCK results. This PCK was characterised by the inseparable paring of constricted pedagogical strategies and limited content knowledge. When teachers do not integrate this very narrow topic-specific PCK with other types of PCK, it has significant repercussions upon the planned curriculum and learning experiences offered to pupils.

Keywords: physical education; games; pedagogical content knowledge

Introduction

The teaching of games within primary schools' physical education in England and Wales

Dating back to the mid-19th century, the tradition of playing games was a firmly established feature of physical education in England and Wales (Mangan 1981; Holt 1989). It was believed that playing games was akin to a moral social education, imbuing pupils with desirable values such as allegiance, manliness and steadfastness, which would be key to their intended roles in a growing society and empire (McIntosh 1976). As training manuals, designed to support 'physical training', became available, the adoption of playing games into the curricula of government maintained primary schools in England and Wales become widespread. A 1933 manual was published that enshrined six areas of activity; games, gymnastics, dance, swimming, athletics and outdoor and adventurous activities. These activity areas form the basis of most primary schools' physical education curricula in England and Wales (Kirk 2003). Indeed, the first and current iteration of the National Curriculum for Physical Education (NCPE) at Key Stages 1 and 2 continues to support the playing of games, alongside the five other activity areas (DfEE/QCA 1999).

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However, despite this requirement to provide a broad and balanced curriculum of different activity areas, games have continued as an overly prominent feature of primary curricula (Ofsted 2005). Worryingly, the quality of teaching within games has been raised historically as an area of weakness (Ofsted 2002, 2005).

The teaching of competence in basic skills, known in the NCPE as 'acquiring and developing skills', has been a consistent element of primary school games lessons (Ofsted 2002, 2005). This trend has continued into the current programme of study in primary schools (Ofsted 2009), primarily due to a close connection with similar practices in sport (Capel 2000). The NCPE currently comprises of four strands in which 'acquiring and developing skills' lies alongside three other strands; 'selecting and applying skills, tactics and compositional ideas', 'evaluating and improving performance' and 'knowledge and understanding of fitness and health'. This requirement of the NCPE to teach a range of conceptual contents, particularly within games, is 'often left to chance' (Ofsted 2002, 4). Developing a real understanding of games through teaching the 'selecting and applying skills, tactics and compositional ideas' strand of NCPE has been reported an area of learning neglected by primary teachers (Ofsted 2002, 2005, 2009). This trend has continued where less-developed teaching across other strands has resulted in pupils 'lacking the ability and opportunities to select and apply appropriate skills such as putting passing skills into action in game play' (Ofsted 2009, 9). Teaching was also judged to provide few opportunities for pupils to discuss, evaluate and use feedbacks to improve their work (Ofsted 2009).

Such narrow practice of teaching 'acquiring and developing skills' has been reinforced by the growing influx of external agents, employed to cover Planning, Preparation and Assessment (PPA) time, which is regularly timetabled to occur during physical education lessons (Ofsted 2005). The employment of personnel qualified to coach specific sporting activities follows recent and significant levels of government funding invested in physical education and school sport through the Physical Education, School Sport and Young People strategy (Department for Children, Schools and Families 2008). Unfortunately, despite good intentions to draw funding into schools, an underlying feature of this strategy has been the 'erroneous conflation of physical education and sport by politicians and policy makers, who in many cases use the terms interchangeably' (Ward and Griggs, forthcoming, 4). These misconceptions now continue with the new coalition governments' move to cut the current levels of investment (Gove 2010). The use of sports coaches has been fuelled by a readiness for primary staff to 'give up' the teaching of physical education to so-called 'specialists' created by teachers' perceived lack of confidence and expertise to teach the subject (Griggs 2010, 42). Indeed, reports on the pedagogical practices of sport coaches within physical education lessons reflect a preoccupation with performance and competition, and inappropriate focus on the development of sports-specific skills (Ofsted 2005, 2009).

These trends lead us to a landscape of primary physical education which is centred upon a 'sporting model', where the focus is on the acquisition of skills within a traditional curriculum, with an unbalanced emphasis upon team games, taught using a limited range of largely didactic pedagogic approaches (Capel 2007). Research investigating why such pedagogical practices, revealed through Ofsted reports on primary physical education, has targeted Initial Teacher Training (ITT) and Continuing Professional Development (CPD) programmes. Poor personal experiences within physical education, limited training time, low levels of confidence

and limited CPD provision have been highlighted as important factors in determining why primary school teachers find teaching physical education a challenge (Armour and Duncombe 2004; Morgan and Bourke 2005, 2008; Morgan and Hansen 2008; Armour 2010). However, a detailed insight into how these factors combine to influence pedagogical decisions by primary school teachers in physical education remains unclear.

Pedagogical content knowledge

Research that has the potential to offer a deeper insight into why teachers adopt particular pedagogical practices within specific curriculum areas has probed into the development of teachers' pedagogical knowledge. Historically, studies in this area have focussed primarily on teachers' education, investigating student teachers' knowledge of their subject separate to the pedagogical strategies they employ (Veal and MaKinster 1999). However, this trend has faded in favour of an alternative and highly influential framework proposed by Shulman (1986), which centres on the concept of teachers' pedagogical content knowledge (PCK). A teacher's PCK represents the integration of different forms of knowledge, experiences, beliefs and values and is based upon the following; (a) knowledge of the subject, (b) general pedagogical knowledge, (c) curricular knowledge, (d) PCK, (e) knowledge of learners, (f) knowledge of contexts and (g) knowledge of the purposes of teaching (Shulman 1987). This approach recognises the important and highly influential relationships that exist between these different knowledge bases, which exert a critical and constitutive influence on teaching (Grossman 1989). Analysis of a teacher's PCK offers an insight into the selection and presentation of subject matter by teachers and the pedagogical strategies they choose to employ (Amade-Escot 2000; Rovegno 2003).

PCK is a knowledge that cannot be acquired through reading a text book; instead, it is developed over a long period of time through reflecting on practice and comparing the effectiveness of similar or contrasting pedagogical strategies in supporting learning in various curriculum contexts (Amade-Escot 2000). Veal and MaKinster (1999) argue that whilst previous models of PCK have identified attributes or components of PCK and how these interrelate, such approaches have overlooked the subject-specific and hierarchical relationships that exist within and between the various components of teachers' PCK. Studies in physical education demonstrate, for example, that experienced and effective teachers are able to draw upon and combine detailed knowledge sources, whereas the PCK of student physical education teachers is characterised by less well-developed and integrated knowledge (Housner and Griffey 1985; Siedentop and Eldar 1989; Schempp 1993; Schempp et al. 1998). Whilst the connectedness or integration of knowledge is important in effective teaching, an overriding common feature of work in this area is the acknowledgement of the contextual nature of PCK, in particular its close affinity with structures within the domain of the subject taught (Amade-Escot 2000; Tsangaridou 2006). Veal and MaKinster (1999), therefore, argue that by examining PCK in a hierarchical manner, the extent of the relationships between PCK and subject context can be more effectively explored. Their stratified model provides a framework that enables PCK to be examined at three main levels; general PCK, domain-specific PCK and topic-specific PCK. How this model relates to physical education is illustrated in Figure 1.

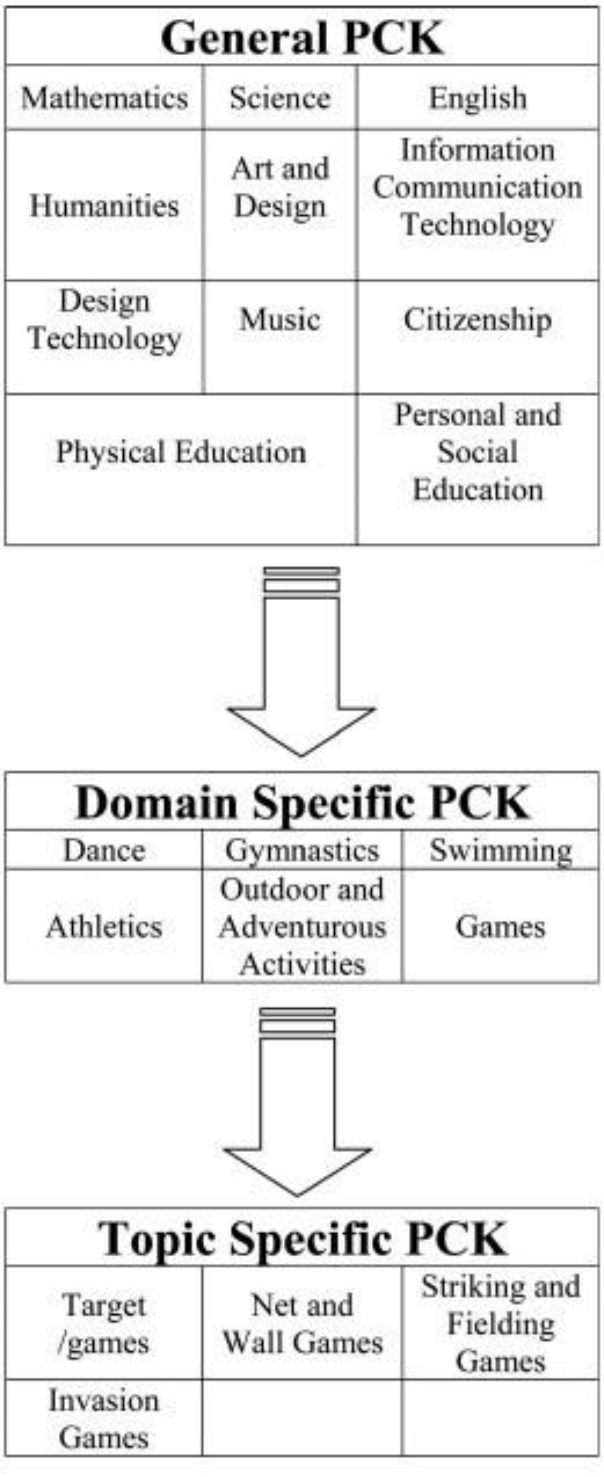

Figure 1. General taxonomy of PCK in physical education (adapted from Veal and MaKinster 1999).

A stratified model of PCK

General PCK is characterised by the manner in which particular concepts and strategies are used and taught within subject areas. According to Veal and MaKinster (1999), it is the unique combination of pedagogical processes, purpose and subject-matter that distinguishes PCK between subjects; thus, this area of PCK has also been referred to as subject-specific PCK (Magnusson, Krajcik, and Borko

1999). For example, in physical education, the utilisation of specific pedagogical strategies is highly related to the extent of teachers' knowledge and their beliefs about the purpose and nature of teaching physical education (Dodds 1994; Schempp et al. 1998).

As can be seen in Figure 1, domain-specific PCK is situated below general PCK and relates to knowledge that is characterised by particular areas within a teachers' subject PCK. In primary physical education, this corresponds to the six activity areas defined by the current NCPE. For example, at this level, a teacher's PCK may be characterised by his or her use of creative pedagogical strategies in gymnastics; however, in contrast, he or she may confine his or her teaching to more didactic outcome-based pedagogical approaches in games, such as being able to play a competent game of rounders according to the rules set out by the National Rounders Association. Research into the acquisition of PCK at the domain-specific level, although limited to ITT, suggests that there is a strong relationship between specific curricula activity areas and the pedagogical practices employed (Rovegno 1991, 1992, 1995; Rovegno and Bandhauer 1994).

Topic-specific PCK refers to the interrelationship of components of knowledge within particular domains of a subject area. In the NCPE, the activity area of games is sub-divided into the topics of target games (e.g. bowls), net games (e.g. tennis), striking and fielding games (e.g. cricket) and invasion games (e.g. rugby). The PCK of a teacher may vary between each topic; for example, within games, the teaching of the relationship between skills and tactics is a common conceptual theme, which may be introduced and taught in various ways. For example, in net games, a teacher may teach in a very conceptual way, with a focus on developing an understanding of skills and tactics, through evaluative pedagogical strategies. However, in invasion games, this teacher may focus his or her pedagogical strategies on developing performance competencies through the teaching of specific skills. Patterns of pedagogical practices that are specific to both the teaching of particular skills and topics within physical education are common (Rovegno 1991, 1992, 1995; Rovegno and Bandhauer 1994).

According to Veal and MaKinster (1999), analysing PCK in a stratified way can reveal greater detail in the characteristics of a teacher's PCK and indicate how they may seek connections within and between the different levels of their PCK. For example, a teacher's general PCK may consist of knowledge and expertise of a broad range of pedagogical strategies. However, at a domain and topic-specific level, this teacher's PCK might reflect limited curriculum knowledge that is linked to more narrow pedagogical strategies, indicating restricted relationships being drawn between his or her topic-specific PCK and his or her wider general PCK (Rovegno 2003).

Purpose of the study

It is apparent that low levels of teachers' confidence, limited ITT, limited CPD, policy confusions over sport and physical education and funding streams preoccupied with developing positive levels of participation statistics have led to a sport-specific and game-dominated pedagogical models, adopted by primary schools (Ofsted 2002, 2005, 2009; Armour and Duncombe 2004; Morgan and Bourke 2005, 2008; Capel 2007; Morgan and Hansen 2008; Armour 2010; Ward and Griggs, forthcoming). Effective teaching is characterised by the connectedness or integration of teachers' knowledge sources (Housner and Griffey 1985; Siedentop and Eldar

1989; Schempp 1993; Schempp et al. 1998), and it is apparent that within physical education, PCK is highly contextualised and closely wedded to the subject domains and topics taught (Amade-Escot 2000). Therefore, effective exploration of the landscape of a teacher's PCK can be achieved by analysing PCK in relation to structure of knowledge within particular subject domains (Veal and MaKinster 1999). Tsangaridou (2006) calls for further research into the construction of teachers' knowledge in physical education, in particular what they 'know' and how they come to 'know'. Such analysis can facilitate the construction of individualised, needs-focussed CPD experiences, aimed to support further PCK development (Tsangaridou 2006).

It is the purpose of this study to examine the landscape of primary school teachers' PCK of games. The article is empirical in nature and focussed on the study of physical education co-ordinators who have specific responsibility for the planning, delivery and monitoring of games taught within their schools. Utilising Veal and MaKinster's (1999) stratified model of PCK, the development of these teachers' domain-specific PCK of games is examined. Analysis is focussed on the relationship between the development of their PCK of games and the organisation and delivery of learning experiences of games for their pupils. Using existing literature, the following emergent themes from the data are explored; frugal skill training, menus of experiences rather than planned curricula rationales, producing pupils competent at sports, limited pedagogical strategies to develop isolated skills, narrow domain PCK cemented by sport and skill-specific CPD, too low a priority for quality assurance – as long as they enjoy it, that is the main thing.

Methodology

Twelve physical education co-ordinators from primary schools known by the researcher in the West Midlands were recruited on a voluntary basis to the study. As subject leaders, these teachers have a significant role in the planning, organising and monitoring of the delivery of games within their schools. In keeping with other studies where the thoughts and opinions of key role holders are important (see, for example, Griggs and Ward 2010) and in line with previous studies of PCK in physical education (see, for example, Schempp 1993; Rovegno 1994; Schempp et al. 1998), a qualitative approach was taken in the study (Bryman 2008). Data were collected using semi-structured interviews (Kvale 1996). Such an approach was chosen to allow for the exploration of personal experiences related to the development of knowledge sources and pedagogical approaches employed in the teaching of games. Participants were interviewed at their convenience, in a quiet area away from potential distractions (Brenner 2006).

Pilot semi-structured interviews were carried out with three teachers, not included in the main sample (Brenner 2006). These indicated a need to modify some interview questions to ensure greater clarity of phrasing and to permit greater exploration of the choice of pedagogical strategies employed in games teaching. These changes were incorporated into the final schedule that was structured around five principle themes developed from the literature: personal educational and wider experiences; training and CPD; curriculum planning; input from outside agencies; aims, content and styles of delivery. This format provided a framework that allowed interview responses to be compared and permitted enough flexibility for clarification and for the emergent themes to be explored (Bryman 2008).

All participants within the study were provided with an explanation of the nature of the research and were informed that they were free to withdraw from the interview at any time (Kvale 1996). All interviews were recorded on a Dictaphone and transcribed, and the names of individuals and the schools they represented were removed to ensure confidentiality. All transcriptions were coded and analysed using a system of 'open coding' (Ritchie and Lewis 2003) with pertinent phrases selected. Access to the data was confined to the researcher and was managed in accordance with the Data Protection Act 1998.

Analysis

Frugal skill training

When discussing their personal experiences as school pupils of being taught games, all of the teachers interviewed recalled lessons focussed on playing specific sports and a curriculum that reflected the preferences of their teachers to particular sporting game forms:

> We played mainly football at primary school . . . . at senior school we played a few more sports, but our PE teacher was a real football fanatic and I was too, so I played lots of football. (Respondent 1)

> Our teacher was really into hockey and I remember playing the game quite a lot, we did a bit of netball and the usual summer games, but hockey seems to stand out as a game we played lots of. (Respondent 3)

> I was not that great at PE at school but I remember playing mainly football in the winter and cricket in the summer . . . our teacher was really keen on these sports, he must have played them well himself so I guess that's why we played then too. (Respondent 7)

This experience of sport-focussed games lessons indicates that many of the teachers were exposed to very limited domain-specific content knowledge, and this is a common feature of many teachers' physical education experiences (Amade-Escot 2000). The teachers reported that they were taught mainly how to play the game, such as rules and positions. Any direct teaching they received was limited to practicing specific game skills, set piece play or simply being encouraged to play the game:

> We weren't taught much really, but I remember my PE teacher being really encouraging and gave us lots of motivation to get involved. (Respondent 2)

> I do remember doing some skill practices (in PE lessons) like passing and shooting but we mainly did that while the nets were put up ready for the match. (Respondent 11)

> We did some practicing of penalty corners and some passing drills. (Respondent 3)

These examples of exposure to very limited domain-specific content knowledge reflect the findings of Placek et al. (1995) and were also accompanied by narrow pedagogy experiences in games:

> We kind of did what we were told, like copying what the teacher wanted. (Respondent 1)

> I learnt the skills by doing the drills set by the teacher . . . . we did them regularly until we got good at them. (Respondent 7)

> Our teacher ref'd and sort of told us what we did wrong and where we should be standing. (Respondent 6)

> We either practiced skills or it was here is your football, go and have a game and in tennis it was here are your rackets and ball, go and play the game. I picked things up, but I can not remember being coached or taught about the sport. (Respondent 7)

This pattern of exposure to narrow content knowledge and narrow pedagogy was reflected in the reflection of the teachers' initial training to deliver physical education.

The most recent survey of trainee and practicing teachers revealed that preparation for teaching physical education within their ITT was considered inadequate (Caldecott, Warburton, and Waring 2006). Only one of the teachers in this study had completed specialist training in the delivery of physical education, the remaining teachers reported very limited learning experiences on their courses, corresponding to those reported by Caldecott, Warburton, and Waring (2006), Clay (1999) and Warburton (2001):

> We had 3 hours in total . . . all based in the gym . . . I do not remember the games stuff we covered. (Respondent 1)

> I did GTP and I did half a day on PE. (Respondent 3)

> I did a PGCE and from memory I did five hours on PE. (Respondent 7)

This limited length of training that was provided reflected the imbalanced predominance of games within the curriculum (Ofsted 2005; Griggs 2007) and followed a narrow pedagogical focus on the teaching of skills (Ofsted 2009):

> A lot of it was about giving ideas for drills . . . each of the sessions we did a different sport, like basketball. We did managing the class, health and safety and a bit on teaching skills. (Respondent 7)

> We learnt mostly about skills and how to teach them, like set round robins of skills. (Respondent 5)

> We focussed mostly on warming up and health and safety and devising little games to develop skills. (Respondent 3)

Even the single teacher who had 'specialised' in physical education reflected on the narrow and limited exploration of pedagogy:

> Most of it was games and skills based games . . . We were not taught how to teach things like tactics . . . we kind of knew what we were doing because we were all PE type people. (Respondent 2)

All of the teachers at some point in their lives reported being engaged in playing games and reflected on the focussed nature of this participation, particularly the development of skills through the repeated replication of practice drills. This development of motor competence was argued to be vital for the development of any competitive competence, for example:

> I played a lot of netball . . . We used to do set practices to get our skills better as we played in quite a competitive league. (Respondent 11)

What was evident is that these teachers then applied this very specific content knowledge and experience of pedagogy to their teaching of games:

> I still use the drills I did as a player in my football lessons. (Respondent 7)
>
> I think the stuff I learnt from playing netball has been really useful . . . I often use drills I learnt to help my pupils improve their skills. (Respondent 8)
>
> In hockey I use drills I have seen used at a club level, like the ones I had to do and use these in my lessons. (Respondent 3)

It was also apparent that teachers believed that these personal experiences in sport were sufficient to deliver games, corresponding with the development of their content knowledge, structured around separate sporting game forms:

> I have not done any CPD in games as I am quite a sporty person and I think I have enough knowledge from my own personal experience to teach them really. (Respondent 2)
>
> I have been playing rugby for like, nearly 30 years now and you know I coach at a local rugby club, so I think I know enough to teach it. (Respondent 1)
>
> Staff are happier teaching games as they have some experiences of sports, like at school or in their own lives. (Respondent 9)

This belief was also held by a specialist sports coach, employed by a school to deliver the majority of physical education in his school:

> Most of my knowledge comes from playing and coaching football . . . the amount of drills I've got stored away in my mind is ridiculous . . . Most of my knowledge has come from being coached and from playing the game, not any training courses. (Respondent 6)

This conflicts significantly with the need for teachers to do more than simply process subject knowledge and develop PCK, which is based upon a depth of pedagogical knowledge that can be applied to create learning experiences that develop pupils' knowledge of the subject (Grossman 1990).

This narrow development of domain-specific PCK was challenged when pupils deviated from being 'busy, happy and good' (Placek 1983). All teachers argued that the main aim of games was to ensure pupils enjoyed playing them and were actively involved in getting on with others. If this was occurring, then lessons were achieving their aims:

> Games is all about getting involved and enjoying the game. (Respondent 10)
>
> If there are happy smiley faces then that is the main thing. (Respondent 1)
>
> It's about actually co-operating with other people, getting the team emphasis . . . rather than just working on your own . . . the game at the end, is mostly just getting involved. (Respondent 5)
>
> I have got an enjoyment of running about and playing games . . . . I try to instil that into the children as it is the most important aspect of games. (Respondent 3)
>
> My role is to get them buzzed up more than they were . . . when the pupils come to me I try and make sure they are quite sporty as they do not do so much in the other classes. (Respondent 7)

This simple criterion of enjoyment was also used to evaluate the work of coaches, employed to deliver games:

> We have done some evaluation work (of the coaching company) and have got feedback of the children and the children do enjoy it and that is the main thing . . . happy smiley faces and that is important. (Respondent 1)

With such narrow experiences of physical education as pupils, very sport-specific involvement as performers and limited teachers' training, it is not surprising that teachers placed great emphasis on the need for topic-specific PCK to deliver lessons aimed primarily at enjoyable and active participation:

> You need to know the rules and how to do the skills right. (Respondent 3)

> My knowledge of games is not massive, like rugby, for example, my knowledge is not great as I don't know all the rules and only know a few practices for passing. (Respondent 9)

This emphasis on the need to have such sport-specific PCK meant that the teachers placed great value on the input of sport-specific coaches in the delivery of the games. Teachers emphasised the ability of coaches to deliver games successfully, qualified by their high levels of specific game knowledge and their ability to deliver lessons that were authentically competitive and akin to playing a real game:

> The netball coach that comes in is so much better at it than I am, she is a player herself and gets them doing all the skills and can get a real game going, which they [the pupils] really enjoy. (Respondent 3)

> In my role I try to get in as many coaches as possible as I think they (the pupils) get better quality teaching . . . . They are specialists in their areas. They make it more competitive and introduce competitive elements to the lessons which is really important for the kids, as they really enjoy this. (Respondent 7)

> The coach will do a warm-up, some skills and then they play a game at the end, because kids like that don't they? (Respondent 9)

These findings are very much inline with Griggs (2010), who reported the significant value placed by primary teachers on the domain and topic-specific PCK of sports coaches. When coupled with an outward enthusiasm for their particular sports, an illusion is created of these personnel as being an authority in physical education. It was evident that the teachers interviewed misconstrued playing competitive sport-specific games as quality learning experiences, where enjoyment and performance were rated above the development of knowledge and understanding about games as enshrined by the four strands of the NCPE (DfEE/QCA 1999). It is not surprising then that the teachers viewed sports coaches as suitably qualified to deliver games. Reports on the practice of coaches within physical education lessons are contrary to this belief and highlight the limitations of such an approach to the teaching of games. Coaches have a preoccupation with performance and competition, and an inappropriate focus on the development of sports-specific skills (Ofsted 2005, 2009). Their inadequate pedagogical skills means they do not teach the full breadth of the curriculum, as 'coaches rarely give pupils the opportunity to select and apply skills they have learned' (Ofsted 2009, 14).

Worryingly, a number of teachers reported having to watch or being supported in their lessons by coaches who demonstrated poor pedagogical practice:

> Having one coach in for a block of work was a waste of time. . . he spent virtually half and hour of the session warming-up . . . they (the pupils) probably spent about 20

> minutes of time over 6 sessions of actually hitting over the net. The standard of coaches completely varies from one sport to another. (Respondent 7)

Despite huge concerns, the practice of substituting teachers for coaches with primary physical education continues (Griggs 2010), and it was evident that all the teachers reported the widespread practice of coaches delivering the games aspect of their physical education curriculum. In some cases, this meant the subject co-ordinator taught very little games:

> Our PE lessons are covered by a coach . . . I do not actually teach PE even though I am the PE co-ordinator . . . the actual games sessions are delivered by an outside coach and that is the same virtually through out the school. (Respondent 5)

As a consequence, however, teachers were aware that employing coaches to cover their PPA time also meant that they were beginning to lose teaching experiences in which to maintain or develop their domain-specific PCK:

> We do have other coaches in like in TAG rugby and tennis . . . sometimes we go in with them so we can build up our own skills with them, but we do not implement this as we do not teach the majority of games, coaches do. (Respondent 9)

This was considered an unavoidable consequence of having input from specialists in addition to the requirement of being released from particular parts of their teaching duties. Most of the subject leaders reported that teaching staff were more willing to relinquish their responsibility for teaching physical education, and some schools even had a policy of creating PPA time through the employment of coaches:

> The others (staff) do not mind if a coach is coming in to do their PE as they do not really enjoy teaching outside and find teaching PE difficult. (Respondent 7)

This willingness to give up physical education teaching to so-called specialists has also been reported by Griggs (2010) and indicates a perceived lack of confidence in general, domain and topic-specific PCK. Such a trend should be viewed with concern, particularly when the long-term development of PCK is dependant upon professional practice (Amade-Escot 2000).

This pattern of development of domain-specific PCK originates from very narrow, early personal experiences of limited subject and domain content knowledge, closely accompanied by limited pedagogical strategies. The relationship between these knowledge sources has been reinforced by limited ITT courses and has led these teachers to repeat these experiences in their own teaching. This development of PCK relating to games has led the interviewed teachers to place significant value on sports coaches who have very similar PCK, characterised by very topic-specific content knowledge and accompanied by pedagogical practices associated with developing specialised sporting performance. This misconstrued value placed on such topic-specific PCK has led many schools to employ sports coaches to deliver games within physical education, the subject being seen as a convenient subject in which to free-up teachers' contact hours for PPA time. Such practice serves to present pupils with learning experiences dominated by a performance-based sport model of games teaching and ignores the breadth of

content stipulated by the four strands of the NCPE. The willingness of teachers to allow their lessons to be taught by coaches also leads to their own deskilling and greater narrowing of PCK.

Menus of experiences rather than planned curricula rationales

The dominant place of games on the physical education curricula of primary schools was clearly evident. All schools operated an indoor lesson and outdoor lesson allocation of physical education teaching a week, the latter lesson being dedicated to games:

> We do 50% of games – each term they do a games session and the other is athletics, gym or dance or swimming. (Respondent 2)

The sport-specific nature of the physical education co-ordinators' domain-specific PCK played a significant role in the rationale behind planning of games across their schools:

> We do curriculum sports like football in the winter and in the summer we do things like rounders and cricket. We also do hockey. (Respondent 4)

> The majority of the time is spent on games . . . we do cricket in the summer and TAG rugby in the winter. (Respondent 6)

This overarching theme of organising games in the curriculum was to ensure that pupils were exposed to a variety of experiences. These were particularly orientated to team games and, unsurprisingly, were couched in the language of sport:

> As long as the children get a variety of sports that is the main thing. (Respondent 9)

> Higher up they do netball rounders, football and hockey . . . we try and cover most of the areas so they get to try different sports. (Respondent 5)

> We try and make sure that they get different sports, you know a variety. (Respondent 2)

> A range of games that is the basic lay-out of our curriculum . . . we try to ensure through the long term plan that there is variety in any one year like football, hockey, basketball and whole range of things. (Respondent 4)

This menu-type approach to the curriculum reflected the limited nature of the teachers' domain-specific PCK. Owing to the complex nature of games, Doherty and Brennan (2007) recommend that the planning of games-centred curricular activities requires a clear, cohesive and progressive rationale. In acknowledgement of the conceptual approach taken by the NCPE, this should be based upon the complexity of skills and tactical problems games present learners, rather than the restricted focus of developing competitive competence in specific sport games forms. A well-designed games curriculum, for example, will develop knowledge, understanding and competence in target games; first, progressing on to net games, then striking and fielding games and ending with the most complex of topics in games activities, invasion games. Such a curriculum will also allow for overlap between these topics, enabling pupils to see relationships between game skills and tactics, as well as experiencing different types of games within each topic.

However, a knowledge and understanding of the need to develop any conceptual understanding of games was clearly absent amongst the teachers interviewed:

> Our aim is to make sure that the children get to do different sports. In key stage 1 it is about looking at the skills of the game and in Key Stage 2 they get to do different games like tennis and rugby. (Respondent 6)

One teacher did, however, recognise the limitations of such an approach to planning games:

> There is a defined indoor and outdoor section, and in the outdoor section they do rugby and netball . . . but we all do the same sort of thing across Key stage 2 and we need to differentiate what we do with them a bit more. (Respondent 3)

This suggests that pupils' learning experiences were simply repeated for each game taught. These menus of 'introductions' to specific sports provide little time for pupils to explore and understand the relationships between rules, tactics and skills, in similar and contrasting games. This results in a games curriculum akin to a series of 'snacks' that can be picked up at any time for a short period, rather than providing a meaningful meal, characterised by a deeper exploration of content through courses and flavours.

It was evident that the restricted nature of the domain-specific PCK demonstrated by the teachers was reflected in their limited knowledge of games within the context of the NCPE. This limited knowledge had caused them to fail to observe any principles in the design of their games curricula other than the development of competence in a selection of sporting forms of games.

Producing pupils competent at sports

Eleven of the twelve teachers believed that games were primarily about developing competent performers, capable of playing specific games:

> In my mind games is working towards you know, sport, competitive sports . . . . I've had children that have never played hockey before but have done it in class with me but have then ended up going to a local club (Respondent 1)

> It's about following the real rules and having to abide by them. (Respondent 5)

> In years 5 and 6 it is about developing the game . . . playing the full version of it so when they get a bit older they can play proper games like football and hockey. (Respondent 2)

This narrow, performance-based justification of games was argued as an essential component of a successful game curriculum, playing a key role in supporting participation in school clubs in addition to supporting competitiveness in inter-school fixtures, run by the local School Sport Partnership:

> Most of the things we do is a build up to a competition because we have not got the numbers so everyone has to play . . . most of the time we come last as we do not have so many pupils to choose from. (Respondent 7)

> They did a game at the end so they knew how to play for the tournament. (Respondent 3)

> We highlighted that participation of year 3/4 girls was low after school, so we got a coach to come in and do netball in PE lessons to try and get them to come after school . . . . we needed to get a team for a competition that was coming up. (Respondent 11)

> We have got a TAG rugby festival coming up so that is why I am sort of drilling it into them. (Respondent 6)

This practice of working towards a competition was particularly entrenched by one school that employed a coaching company to deliver all games taught at Key Stage 2:

> At the end of each block they do an intra house competition based on that sport. The sessions are about building towards these competitions . . . . they are also good preparation for the festivals we do through the SSCo [School Sport Co-ordinator]. (Respondent 1)

This narrow, performance-centred nature of domain-specific PCK not only established a very narrow justification of games within the curriculum but also provided the criteria for teachers to judge the success of their games curricula in promoting a healthy life style. A significant proportion of teachers argued that pupils needed to play games to develop the competence and desire to play games in adult life. The teachers believed that this was an important and overriding precursor to developing healthy pupils, ignoring the wider conceptual knowledge described in the Knowledge of Health and Fitness strand of the NCPE:

> In years 5 and 6 it is about developing the game so they can play to the rules and maybe go on to a club. (Respondent 9)

> To provide a range of sporting opportunities to children to enable them to make a choice of what they feel they're good at and for them to pursue later in life. (Respondent 5)

> It's about providing an awareness of a sport and giving them the skills to join a club. (Respondent 2)

> If you're looking at why we do rugby, the only reason I could think of is that we're looking for people to take up rugby in the future. (Respondent 1)

Teachers also applied their performance-based domain-specific PCK to identify talented pupils and ensure that they are encouraged to participate in school clubs and teams:

> We run an after-school club, maybe and direct any that show any particular talent to go to it and we also tell them where they could play at a local club. (Respondent 11)

> She (a previous subject leader) did a lot of netball in her spare time so she was able to drive after-school netball clubs, she was able to signpost people to netball clubs, and also that helped her identify talent, now I like rugby and I like football and I know when I see a hot piece of rugby player or somebody with a bit of potential or football, so I may decide to. (Respondent 1)

This focus on talent spotting was often seen as the main way of supporting the learning of very able pupils, which often exposed the limitations of the sport-based domain-specific PCK demonstrated by the interviewees. Many teachers reported difficulties when faced by pupils with experience of playing competitive sports in their local community:

> Their (the pupils) knowledge of the game is better than mine . . . I am not an expert. I know some of the rules of games, but it means they are one step a head and that can be really difficult to deal with. (Respondent 7)

> You are going to have pupils that are better . . . they go to sport clubs which can be a problem as they know and can do more. (Respondent 3)

The limited focus of lessons on enjoyable participation and the playing of specific games meant that many teachers found differentiating learning to high-ability pupils difficult:

> It is all about how good they are and some of the sporty children find it very difficult to be part of a team who are not that able. This can create lots of social problems. (Respondent 5)

> Some of the higher children will move onto sort of catching one handed, dives and that sort of thing. (Respondent 1)

Pedagogical strategies employed to support the learning of able pupils were limited to reinforcing the importance of developing the competence to perform specific skills, by asking able pupils to demonstrate their expertise:

> You will always find a pupil who is really good at a sport and I will say what I want them to do and get the pupil to demonstrate the drill and they copy them. (Respondent 7)

Alternatively, their learning was directed at supporting the less able or giving them roles in supporting competition:

> We can use them to mentor the less able pupils (Respondent 3)

> You can make them a team captain and get them to encourage their team to play well. (Respondent 10)

No evidence was recorded of teachers using PCK from other domains within physical education or with other subject areas to support differentiation. Very low-ability pupils were reported to be grouped together and given more time to complete skill tasks and were either distributed amongst teams when playing a game or grouped into teams to play each other. These are very limited pedagogical strategies, and any knowledge of the way in which games can be adapted to support differences in development was not forthcoming. This is not dissimilar to the practises revealed by previous inspection reports (Ofsted 2002, 2005).

The limited pedagogical strategies employed by the teachers highlight the very narrow features of the teachers' domain-specific PCK. In particular, a preoccupation with developing competence in sporting forms of games, allied to the very narrow success criteria of enjoyment and participation, creates problems in ensuring all pupils' learning is recognised and appropriately challenged. The absence of connections between pedagogical strategies in other domains and other subjects also suggests a significant compartmentalisation of their domain-specific PCK of games.

Limited pedagogical strategies to develop isolated skills

The uncovered compartmentalised domain-specific PCK underpinned a preoccupation with the Acquiring and Developing strand of the NCPE:

> I place the most emphasis on skills, the focus is skill development. (Respondent 5)

> I used fundamental movement skills as a basis to my programme, so I could develop their skills . . . . I try and show them skills they can do and begin to acquire. (Respondent 3)

> Helping the children get better at their skills, this is the main focus of their work in games. (Respondent 2)

> Mostly skills based . . . like catching and throwing . . . just the general healthiness like warming-up and down and learning a particular skill and incorporating this in a game at the end. (Respondent 5)

This narrow curriculum content also tended to be built into games planning:

> The long term plan ensures progression, skill progression . . . . What we do ourselves we tend to look at the long term plan and say right we are doing that skill through that particular sport (Respondent 4)

The pedagogical strategies employed to create experiences for pupils to master these skills tended to focus upon the motor requirements of the skill, achieved through isolated technical practices:

> We'd start off small with kicking skills, and trapping skills, by doing practices to get the action right. (Respondent 1)
>
> I tend to get a pupil to do a demo and then get the class to copy the practice . . . getting the action is really important. (Respondent 7)
>
> I try and get them learning the skills . . . at the moment in rugby I am focussing on the backwards pass . . . I am working my drills into looking and passing backwards. (Respondent 6)

This focus on motor techniques rather than perceptual aspects of skills, such as applying the skill to enact particular tactics, reflects the pattern of teaching reported by Rovegno (1993, 1994, 1995) on the PCK of student teachers. It indicates that many of the experienced teachers in this study have very limited domain-specific PCK. Accompanying their practice of isolating the technical development of games skills was their repeated use of favourite practices and games that they knew worked well:

> I have a set number of practices and games which I have learnt . . . I use these as I know how they work. (Respondent 8)
>
> You tend to develop a back-log of practices and I kind of remember how they work and rely on these mainly. (Respondent 10)

Experimentation with different pedagogical approaches was not a feature of their work and corresponds with the tendency for experienced teachers to limit curricula content to personal comfort zones (Rovegno 1994).

Skill development was seen by many teachers as a prerequisite to playing games, particularly for those with limited experiences in playing games:

> It has got to be about skill development so they can use it in a game. (Respondent 4)
>
> I teach skills so the less able can get involved in the games. (Respondent 10)
>
> They need to have the skills first before they play (Respondent 7)

Teachers' enactment of progression within games learning primarily involved moving from these isolated skill practices to playing a small sided game:

> I develop the skills and then get them into a game. (Respondent 9)
>
> We teach skills and build on them by playing sort of 2 vs 2 and 4 vs 4 games. (Respondent 3)

However, many teachers reported finding it difficult to maintain full and active participation of their pupils when playing small-sided games and often resorted to

playing bigger sided games so that they could keep an eye on more of the class. This had inherent difficulties:

> Some can't and don't join in much as they aren't very good . . . this can lead to poor behaviour. (Respondent 12)

In order to overcome such issues, teachers often limited curricula content to their personal comfort zones. This was often focussed on skill development and used as a way to differentiate and control this off-task behaviour:

> I focus more on the skills so everyone is involved as when we play games not all of them can join in so well. (Respondent 6)

> Teachers find it much easier to teach skills as we can control the class better than when they get involved in playing the game. (Respondent 8)

Teaching pupils how to select and apply skills and tactics was considered to be beyond the capability of a significant number of teachers:

> I guess some children can spot a pattern and something clicks. They have to play the game to pick-up tactics, but I am unsure how you can teach tactics. Some children just pick them up because they play the game outside school. (Respondent 3)

> Like some things can not be taught . . . you learn that from just playing. (Respondent 6)

> A lot of the time it is through watching on television I think . . . a lot of them play for a club and pick up things there. (Respondent 11)

> I kind of say 'put someone on the post' because that's what I've seen that that's a good tactic . . . but with tactics you have to understand the game more by playing it outside school. (Respondent 12)

These limited attempts to teach a tactical understanding of games also matches their incomplete PCK of games and corresponds to Rovegno's (1993, 1994, 1995) work on student teachers, who reported that children were not taught game strategies as it was thought that children could learn these by themselves.

A strategy reported by three teachers was to teach positional play and tactics by 'coaching' pupils while they played a game:

> Children learn by playing the game and doing a coached game . . . if anything occurs in a game I tell them to stop and stand still and stay where they are and try and rewind it . . . 'What's he done there?', 'What are the options?', I just get them think about it. (Respondent 6)

> We play small games like 3 vs 3 or 4 vs 4 and get the children to develop that themselves. I might question 'Why are you here? Where could you be?' 'What would be a better place to stand?' 'Why do you think he's stood there, he's got that ball there?' (Respondent 1)

Whist this strategy can be useful, its value, however, lies when feedback is securely based in agreed learning objectives and learning outcomes, otherwise it can become an ad-hoc approach of trying to reverse time. The strategy also demands high levels of reflection and awareness by learners, and pupils can come to resent interruption in their investment of physical effort in the learning task. If feedback is not focussed on explicit learning criteria, it becomes negative in nature:

> I mostly stop the game when I need to tell them what they are doing wrong. (Respondent 7)

Stopping good phases of play is undesirable and illogical, unless connected to specific learning objectives. For example, stopping a good phase of attacking play might be required if defending was the focus of the lesson, and poor marking of players was facilitating the ease of the attacking play.

Clear and appropriate learning objectives originate not only from knowledge of pupils' strengths and weaknesses but also from a secure and deep knowledge of subject and domain content knowledge. It was evident that the limited domain content knowledge of games exhibited by the teachers combined with their narrow pedagogical strategies to produce limited learning experiences for pupils in their games lessons. Experimentation with other pedagogical strategies was also hampered by the very close and unbreakable associations between their limited domain content knowledge of games and narrow performance-based pedagogical strategies.

Narrow domain-specific PCK cemented by sport and skill-specific CPD

The practice of limiting curricula content to personal comfort zones and the teachers' general satisfaction with their PCK in games meant that many had not completed any or reported minimal CPD courses concerned with games. Dance and gymnastics were stated to be main areas of concern, and games were not considered a priority. Those who had done games-centred CPD courses recalled a narrow pedagogical focus on skills' development:

> I did a lot at one point like TOP games and TOP sports . . . I think again that these were skills based, delivering the skills and moving around different activities rather playing the game. (Respondent 5)

> In general the courses teach you different drills to use for skills like throwing, hitting and catching . . . it was basically about showing us how to use a bag of equipment to develop skills. (Respondent 6)

> The last games course I went on was TOP Tennis . . . it was more about the technique of forehand and how to hold the racket. (Respondent 7)

> We did quite a lot of skills in the course . . . skills always seem to dominate. (Respondent 8)

When staff had attended or planned to complete any games-based CPD, it was very sport-specific and provided to ensure that the school opted into promoting a specific sport in curriculum time. This was accompanied by resources such as the gift of 'free' equipments, 'free' coaching time or both:

> I've got to go on a cricket course soon as to get the funding we have to do the course . . . they are going to give us some money to improve our facilities and we will have a coach to teach for a block. (Respondent 7)

This suggests a sport-focussed, resource-led basis to the CPD being offered to the teachers interviewed, rather than a programme based on identified limitations in subject, domain or topic PCK.

Other forms of CPD, such as working with other personnel on planning and delivery of games lessons, were also recognised by the teachers. However, these opportunities often involved a sport-specific coach, and misconceived value placed

on the expertise of the PCK of these non-teaching staff served to compound the sport and skill-centred nature of games teaching:

> I can see him (the coach) working increasing closely with staff to ensure lessons are planned correctly. He is a university graduate who has set up his own firm to deliver high quality coaching skills in a range of disciplines. (Respondent 4)

> The teachers went out to watch (the coach) and pick up on ideas . . . like a skills devoted games session, like she did a carousel of netball skill, which was a good example of games teaching. (Respondent 1)

> The class teacher normally goes with them and can pick up on what they do . . . like the skill practices . . . A coach came in to do hockey and he did lots with them and lots of skills and drills which was very good. (Respondent 3)

> Like the coach knows exactly what the end result should be and sometimes that is my problem I do not know where they should be heading . . . A coach is better skilled to teach the skills. They are more in tune with what the children are looking for. (7)

> A coach teaches the pupils how to play a sport and get good at it, which is what we are trying to do. (Respondent 8)

The high value placed by these teachers on the sports centred content knowledge of games and the accompanying performance based pedagogical approaches demonstrated by coaches, is misjudged and a result of the teachers' own limited PCK. In order to provide deep and broad learning experiences in games, knowledge of sporting versions of games is highly relevant. However, this must be combined with a sound knowledge of curriculum aims and contents and linked with a breadth of knowledge and experience of pedagogical strategies.

When combined with the limited nature of CPD opportunities available for teachers in games, the high value placed on the practice of coaches can only serve to continually reinforce the very narrow domain-specific PCK of the teachers in the study.

Too low a priority for quality assurance – as long as they enjoy it, that is the main thing

The cycle of continual reaffirmation of limited sport-specific PCK amongst the teachers interviewed appears set to continue. All of the teachers stated that lesson observation cycles existed to examine the quality of teaching of subjects across the school. However, in all cases, foundation subjects, such as physical education, took a back-seat to the core subjects. The low priority of place on physical education was reflected in the fact that many lessons were not observed for up to 3 and, in some cases, 4 years:

> Monitoring of what each teacher is delivering is very low down on the priority list, Maths, English and Science are what people from outside, such as Ofsted ask about. (Respondent 2)

> I do not think there is anything in place for regular monitoring of teaching PE . . . they do the core subjects though. (Respondent 3)

None of the interviewed physical education co-ordinators had completed any recent formal observations, and information relating to the quality of physical education observed was gleaned on an ad-hoc and highly informal basis:

> I probably have not observed a lesson . . . in four years, . . . but informally, walking through lessons but not actually observing. (Respondent 8)
>
> There is a range of teaching . . . that's based on snippets that I have seen as I have not done any formal evaluations in my role. (Respondent 2)

Many of the teachers were reported being given the physical education co-ordinator's role because they were new to the school or commencing their teaching careers. As such, they reflected on having limited experiences of observing teaching and supporting teachers' development and claimed limited subject expertise:

> I have not observed PE before as I have never been a PE co-ordinator before. (Respondent 3)
>
> Although I am the PE coordinator I am not a specialist in PE. (Respondent 7)
>
> My role is about planning and making sure the resources are there for the staff, I would not say I am a specialist in teaching PE . . . I can help with ideas but I am not a teaching expert. (Respondent 8)

This low priority placed upon the physical education coordinator's role, in particular the low status attributed to personnel with pedagogical and curriculum expertise in the subject, can only serve to hamper the development of PCK within and between school communities. Billett (2001), Borko (2004) and Armour and Duncombe (2004) have outlined the importance of a variety of activities that can enhance the professional development of practicing teachers. The role of the school and, in particular, the coordination and mobilisation of expertise have been identified as crucial in supporting teachers to transfer domain and subject-specific PCK and to teach new subject content and use of unfamiliar pedagogical strategies (Rovegno 1994). Limited quality assurance systems, few opportunities for staff to engage in meaningful activities designed to enrich and develop PCK, will only continue to strengthen the narrow, sport-focussed nature of the domain-specific PCK demonstrated by the teachers in the study.

Conclusion

Exposure to very narrow, early personal experiences of limited subject and domain-specific content knowledge, closely accompanied by limited pedagogical strategies, played a significant contribution to the development of very narrow domain-specific PCK of the teachers in this study. This was reinforced by limited experiences in their ITT courses, which did not serve to develop their content knowledge or broaden their knowledge of pedagogical strategies. On the basis of these experiences the teachers interviewed placed significant, but misplaced value on topic PCK. Such highly valued topic PCK was characterised by very sport-specific content knowledge and pedagogical practices associated with developing specialised sporting performances. Sport coaches exhibiting these values were regarded by the teachers in the study as domain and topic 'specialists', with many of their schools employing such personnel to deliver games to create PPA time. This pattern of provision serves to present pupils with learning experiences that ignore the breadth of content stipulated by the four strands of the NCPE. The willingness of teachers to allow their lessons

to be taught by coaches, combined with the limited nature of CPD opportunities available for teachers in games, appears to reinforce the very narrow domain-specific PCK of the teachers in the study.

A limited knowledge of games within the context of the NCPE was also a particular feature of the teachers' restricted domain-specific PCK. This caused them to ignore any principles in the design of their games curricula other than the development of competence in a selection of sporting forms of games. Their preoccupation with developing competence in sporting forms of games, allied to the very narrow success criteria of enjoyment and participation, created problems in providing authentic, differentiated learning experiences. The absence of knowledge drawn from other pedagogical strategies, which may have been used in other subjects and domains to create differentiated learning experiences, points towards a significant compartmentalisation of their domain-specific PCK of games. Experimentation with other pedagogical strategies was hampered by the seemingly unbreakable connection between their limited domain content knowledge of games and narrow performance-based pedagogical strategies. Wider pedagogical practice was also limited by the low priority placed on quality assurance systems in games teaching and the absence of opportunities for staff to engage in CPD activities designed to enrich and develop their PCK.

The predominant theme of the domain-specific PCK of the teachers in this study has been the tightly forged connection between their limited sport-specific knowledge of games and very didactic, performance-focussed pedagogical strategies. The absence of connections with other pedagogical knowledge at the domain and general level illustrates the compartmentalisation of this domain-specific PCK. Griggs (2007, 2010) laments the reduction of primary physical education to a subject couched in the language and pedagogical practices of sport. It is difficult to see how this current climate of practice will change if teaching of games is relinquished to outside non-teaching staff or evaluated by informal and irregular 'snippets' of practice obtained by walking past a lesson. For this cycle of continual reaffirmation of very narrow domain-specific PCK to be broken, there is an urgent need to embrace wider CPD practices that are not limited to one-day courses designed to support the development needs of specific sports or the latest government strategy (Griggs and Ward 2010). Recognising and supporting professional-development practices such as 'reflection and action' (Billet 2001) or support that is 'intensive, on-going and connected to practice' (Darling-Hammond et al. 2009) that serve to challenge and support teachers are a crucial components in eliciting change. If teaching in games is to move beyond learning skills and playing for fun, teachers need to be able to reflect upon the development of their current PCK and opportunities created for them to acquire and integrate new PCK. The revision of the NCPE at the primary level, expected within the current coalition government's tenure, may be a way forward. This will only be achieved if, as Griggs (2010) suggests, the contribution of physical education to the development of the whole child forms the core tenant of its conceptualisation, underpinned by theory that sponsors learning across the psychomotor, cognitive and affective domains (Bloom 1956). This would demand more holistic and integrated PCK that supports the connection of varied pedagogical strategies with deeper subject knowledge, to ensure that learning experience in games is created to provide learning beyond the psychomotor and affective domains.

References

Amade-Escot, C. 2000. The contribution of two research programmes on teaching content: Pedagogical content knowledge and didactics of physical education. Journal of Teaching in Physical Education 20, no. 1: 78–101.

Armour, K. 2010. The physical education profession and its professional responsibility . . . or . . . why 12 weeks paid holiday will never be enough. Physical Education and Sport Pedagogy 15, no. 1: 1–13.

Armour, K. and R. Duncombe. 2004. Teachers' continuing professional development in primary physical education: Lessons from present and past to inform the future. Physical Education and Sport Pedagogy 9, no. 1: 3–22.

Billett, S. 2001. Learning throughout working life: Interdependencies at work. Studies in Continuing Education 23, no. 1: 19–35.

Bloom, B.S., ed. 1956. Taxonomy of educational objectives. Book 1: Cognitive domain. New York: David McKay.

Borko, H. 2004. Professional development and teacher learning: Mapping the terrain. Educational Researcher 33, no. 8: 3–15.

Brenner, M. 2006. Interviewing in educational research. In Handbook of complementary methods in educational research, ed. J. Green, G. Camilli and P. Elmore, 357–70. Mahwah: Lawrence Erlbaum.

Bryman, A. 2008. Social research. 3rd ed. Oxford: Oxford University Press.

Caldecott, S., P. Warburton, and M. Waring. 2006. A survey of the time devoted to the preparation of primary and junior school trainee teachers to teach physical education in England. The British Journal of Teaching Physical Education 37, no. 1: 45–8.

Capel, S. 2000. Approaches to teaching games. In Issues in physical education, ed. S. Capel and S. Iotrowski, 65–87. London: RoutledgeFalmer.

Capel, S. 2007. Moving beyond physical education subject knowledge to develop knowledge-able teachers of the subject. Curriculum Journal 18, no. 4: 493–507.

Clay, G. 1999. Movement backwards and forwards; the influence of government on PE – An HMI perspective. The British Journal of Physical Education 30, no. 4: 38–41.

Darling-Hammond, L., R. Chung Wei, A. Andree, N. Richardson, and S. Orphanos. 2009. Professional learning in the learning profession: A status report on teacher development in the United States and abroad. http://www.nsdc.org/news/NSDCstudy2009.pdf (accessed January 8, 2011).

Department for Children, Schools and Families (DCSF). 2008. Physical education and sport strategy for young people. London: DCSF.

Department for Education and Employment/Qualifications and Curriculum Authority (DfEE/QCA). 1999. The National Curriculum in England; Physical education. London: HMSO.

Dodds, P. 1994. Cognitive and behavioural components of expertise in teaching physical education. Quest 46: 153–63.

Doherty, J., and P. Brennan. 2007. Physical education and development 3–11: A guide for teachers. London: Routledge.

Gove, M. 2010. Letter to Baroness Sue Campbell President of Youth Sport Trust. Circulated 20th October.

Griggs, G. 2007. Physical education: Primary matters, secondary importance. Education 3–13 35, no. 1: 59–69.

Griggs, G. 2010. For sale – Primary physical education. £20 per hour or nearest offer. Education 3–13 38, no. 1: 39–46.

Griggs, G., and G. Ward. 2010. Cogs in the machine: Unheard voices of primary link teachers. Primary Physical Education Matters 5, no. 5: iii–vi.

Grossman, P. 1989. A study of contrast: Sources of pedagogical content knowledge for secondary English. Journal of Teacher Education 40: 24–32.

Grossman, P. 1990. The making of a teacher: Teacher knowledge and teacher education. New York: Teachers College Press.

Holt, R. 1989. Sport and the British – A modern history. Oxford: Oxford University Press.

Housner, L., and D. Griffey. 1985. Teacher cognition: Differences in planning and interactive decision making between experienced and inexperienced teachers. Research Quarterly for Exercise and Sport 56: 45–53.

Kirk, D. 2003. Sport, physical education and schools. In Sport in society, ed. B. Houlihan, 143–62. London: Sage.
Kvale, S. 1996. Interviewing: An introduction to qualitative research interviewing. London: Sage.
Magnusson, S., J.S. Krajcik, and H. Borko. 1999. Nature, sources and development of pedagogical content knowledge for science teaching. In Examining pedagogical content knowledge: The construct and its implications for science education, ed. N. Lederman, 95–132. The Netherlands: Kluwer Academic Publishers.
Mangan, J. 1981. Athleticism in the Victorian and Edwardian public school. Cambridge: Cambridge University Press.
McIntosh, P. 1976. The curriculum of physical education: An historical perspective. In Curriculum development in physical education, ed. J. Kane, 7–18. London: Crosby Lockwood Staples.
Morgan, P., and M. Bourke. 2005. An investigation of preservice and primary school teacher perspectives of PE teaching confidence and PE teacher education. ACHPER Healthy Lifestyles Journal 52, no. 1: 7–13.
Morgan, P., and S. Bourke. 2008. Non-specialist teachers' confidence to teaching physical education: The nature and influence of personal school experiences in physical education. Physical Education and Sport Pedagogy 13, no. 1: 1–29.
Morgan, P., and V. Hansen. 2008. Classroom teachers' perceptions of the impact of barriers to teaching PE on the quality of PE programs delivered in primary schools. Research Quarterly for Exercise and Sport 79, no. 4: 506–17.
Ofsted. 2002. Physical education in primary schools. London: TSO.
Ofsted. 2005. Physical education in primary schools. London: TSO.
Ofsted. 2009. Physical education in primary schools (2005–2008). London: TSO.
Placek, J.H. 1983. Conceptions of success in teaching: Busy, happy and good? In Teaching in physical education, ed. T. Templin and J. Olsen, 46–56. Champaign, IL: Human Kinetics Publishers.
Placek, J., S. Dodds, P. Doolittle, T. Portman, T. Ratliffe, and K. Pinkham. 1995. Teaching recruits' physical education backgrounds and beliefs about purposes for their subject matter. Journal of Teaching in Physical Education 14, no. 1: 246–61.
Ritchie, J., and J. Lewis. 2003. Qualitative research practice: A guide for social science students and researchers. 3rd ed. London: Sage.
Rovegno, I. 1991. A participant-observation study of knowledge restructuring in a field-based elementary physical education methods course. Research Quarterly for Exercise and Sport 62: 205–12.
Rovegno, I. 1992. Learning to teach in a field-based method course: The development of pedagogical content knowledge. Teaching and Teacher Education 8, no. 3: 69–82.
Rovegno, I. 1993. Content knowledge acquisitions during undergraduate teacher education: Overcoming cultural templates and learning through practice. American Educational Research Journal 30: 611–642.
Rovegno, I. 1994. Teaching within a curricular zone of safety: School culture and the situated nature of student teachers' pedagogical content knowledge. Research Quarterly for Exercise and Sport 65, no. 3: 269–79.
Rovegno, I. 1995. Theoretical perspectives on knowledge and learning and a student teacher's pedagogical content knowledge of dividing and sequencing subject matter. Journal of Teaching in Physical Education 14, no. 3: 284–304.
Rovegno, I. 2003. Teachers' knowledge construction. In Student learning in physical education: Allying research to enhance instruction, ed. S. Silverman and C. Ennis, 295–310. Champaign: Human Kinetics.
Rovegno, I. and D. Bandhauer. 1994. Child-designed games: Experiences change teachers' conceptions. Journal of Physical Education Recreation and Dance 65: 60–3.
Schempp, P. 1993. Constructing professional knowledge: A case study of an experienced high school teacher. Journal of Teaching in Physical Education 13: 2–23.
Schempp, P., D. Manross, S. Tan, and M. Fincher. 1998. Subject expertise and teachers' knowledge. Journal of Teaching in Physical Education 17: 342–56.
Shulman, L.S. 1986. Those who understand: Knowledge growth in teaching. Educational Researcher 15, no. 2: 4–14.

Shulman, L.S. 1987. Knowledge and teaching: Foundations of the new reform. Harvard Educational Review 57, no. 1: 1–22.
Siedentop, D. and E. Eldar. 1989. Expertise, experience and effectiveness. Journal of Teaching in Physical Education 8, no. 3: 254–60.
Tsangaridou, N. 2006. Teachers' knowledge. In The hand book of physical education, ed. D. Kirk, D. Macdonald, and M. O'Sullivan, 502–15. London: Sage.
Veal, W. and J. MaKinster. 1999. Pedagogical content knowledge taxonomies. Electronic Journal of Science Education 3, no. 4. http://wolfweb.unr.edu/homepage/crowther/ejse/vealmak. html (accessed January 14, 2011).
Warburton, P. 2001. A sporting future for all: Fact or fiction. The British Journal of Teaching Physical Education 32, no. 2: 18–21.
Ward, G., and G. Griggs. Forthcoming. Principles of play: A proposed framework towards a holistic overview of games in primary physical education.

Appendix 4.

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Principles of Play: a proposed framework towards a holistic overview of games in primary physical education

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The playing of games has been a long standing tradition in physical education. Yet despite its history, the teaching of games within primary physical education lessons remains something of a weakness. This is most evident through a continued focus upon skill acquisition and a lack of fostering of a real 'tactical understanding' of game play. Despite attempts to rectify this issue through the development of instructional models, a lack of conceptual clarity remains. This paper proposes a framework that goes some way to rectify this ambiguity by proposing to focus upon what are referred to as 'Principles of Play'. It is recommended that this approach should become the focus when conceptualising what constitutes primary games lessons.

Keywords: physical; education; games

Introduction

Within physical education and school sport in the UK, the playing of games has been a long standing tradition (Mangan 1981; Holt 1989). As far back as the mid-nineteenth century, within public schools, team games such as cricket and rugby were seen as fundamental to the curriculum and were perceived as enabling the building of one's character and the teaching of characteristics such as manliness and loyalty; qualities that were seen as 'transferable to the world beyond' (McIntosh 1980, 27). When training manuals for schools, such as 'Physical Training', became available and more popularly used at the start of the twentieth century (Kirk 2003), the adoption of games into 'state' school curricula became widespread, and was first added in the 1906 revision for the purpose of providing for 'moral and social education' (McIntosh 1976, 29). Further revisions of this manual continued over the following decades with the adding of both gymnastics and dance, until importantly in 1933 a version was published which saw the addition of athletics, outdoor and adventurous activities and swimming, enshrining a six activity area model which would become the basis of most school physical education curricula in the UK thereafter (Kirk 2003). These activity areas were further reinforced in the first iteration of the National Curriculum in England and Wales (DES 1991) and remain in place as part of the current primary orders in England (DfEE/QCA 1999).

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Within the teaching of games, as part of physical education, there has long existed a focus upon the acquisition of basic techniques and skills, largely because of its close historical association with sport (Capel 2000). This has also been formally reinforced by placing the original key value of the National Curriculum for Physical Education on 'performance' (DES 1991) and highly recommending a teaching model which comprised a structure of 'warm up, skill learning and a game' (NCC 1992). The emphasis on 'skill' development continues into the current programme of study for physical education in primary schools (a new secondary curriculum came into being in 2008 (see QCA 2007)) in which 'Acquiring and Developing Skills' and 'Selecting and Applying Skills, Tactics and Compositional Ideas' are named as two of the four strands, alongside 'Evaluating and Improving Performance' and 'Knowledge and Understanding of Fitness and Health', which should be delivered through physical education lessons.

An approach which includes the learning of basic techniques in the primary age phase is vital, not least because basic movement competencies must be in place in order to become proficient in more complex activities such as playing sports in later life (Gallahue and Ozmun 1995; Jess, Dewar, and Fraser 2004). These key motor skills are often referred to as fundamental movement skills (FMS) and are categorised into body management (balance; still and motion), locomotor (transporting the body) and object manipulation (using objects) skills (Gallahue and Ozmun 1995). Games demand the application and execution of complex movements and skills and, thus, proficiency in these FMS are an important element of pupils' physical education (Okley and Booth 2004; van Beurden, Zask, and Barnett 2002). However, if FMS are developed in isolation, the ability to apply them to become proficient players of games remains limited. This is because an understanding of how to apply these skills in an ever-changing game environment will not have been taught (Belka 2004; Curtner-Smith 1996; Capel 2000). Here lies the crux of the problem.

Despite the fact that games teaching has continued to dominate physical education lessons in primary schools (Ofsted 2005) it is an area that reflects a weakness in teaching (Ofsted 2002), particularly in respect of fostering a real 'understanding' of game play apparent in the second strand of 'Selecting and Applying Skills, Tactics and Compositional Ideas'. According to Ofsted (2002, 4), this is an aspect that is 'not well developed and is often left to chance'. Even when so called external 'specialists', such as sports coaches, are brought in to deliver primary physical education lessons, the landscape appears unchanged with a continued focus upon skill acquisition (Ofsted 2009).

In short, within primary schools in particular:

> We still see so many so-called games lessons where children spend most of their time passing basketballs or hockey balls back and forwards to each other in straight lines. The lesson is safe, the teacher can see all of the children, and the teacher can argue that the children are learning the basic techniques of the game. This may be so. But one thing we can be sure of is that they are not learning to play the game. (Kirk 2005, 133)

Given the long history of games teaching within schools, coupled with the fact that the physical education curricular strand of 'Selecting and applying skills, tactics and compositional ideas' has been statutory for a decade, it remains something of a surprise that this aspect of basic understanding has received little attention within the primary sector. The aim of this paper is to make a contribution to address this concern and to find a useful way forward that may be of practical benefit.

In terms of structure, the paper first examines the landscape of primary physical education to ascertain an appreciation of the issues that may have mitigated a deeper understanding of games teaching being developed. Secondly the paper examines global attempts to address the specific issue of 'tactical understanding' and highlights a lack of clarity in their conception. The third section proposes a framework that goes some way to rectify this lack of clarity by proposing to focus upon what are referred to as 'Principles of Play'. Finally, a conclusion draws together the main points made while highlighting the applicability of the suggested framework for future games teaching within the physical education community.

Understanding the landscape of teaching games in primary physical education

Childhood and adolescent experiences in sport and physical education have been shown to have a strong influence upon teachers' conceptions of activities they deliver during physical education lessons (Capel 2007). As such, many trainees begin with a strong idea of what they expect to experience during their training and this serves to reinforce rather than to challenge their existing viewpoint (Lawson 1986; Doolittle, Dodds, and Placek 1993; Solmon and Ashy 1995). Research suggests that beliefs about physical education developed prior to teacher training are not easily changed and that teacher training has relatively little impact on trainee teachers (Evans 1992; Placek et al. 1995; Evans, Davies, and Penney 1996; Green 1998; Curtner-Smith 1999). Consequently it has been shown that most new entrants to the profession continue to teach what and how they were taught, reinforcing what they value and believe (Evans and Penney 1992; Penney and Evans 1997).

This of course raises very real concerns about the value and usefulness of teacher training, and rightly so. For the last two decades, concerns have been raised regarding the preparedness of primary and junior school teachers to teach physical education (Caldecott, Warburton, and Waring 2006). A key aspect underpinning such concerns has been the lack of time given to the subject during teacher training (Clay 1999; Warburton 2001), which can amount to as little as nine hours on a one-year Post Graduate Certificate of Education (PGCE) course and just five hours for those involved with School Centred Initial Teacher Training (SCITT) (Caldecott, Warburton, and Waring 2006). The consequence of this is the low level of teacher confidence in delivering physical education apparent amongst non-specialists in the primary sector (DeCorby et al. 2005; Morgan and Bourke 2005, 2008).

Understandably, when faced with a crisis of confidence, the mantra of 'go with what you know' is never far behind and regarding games this has manifested itself in the over-reliance of teaching skills and techniques (Kirk 1992; Ofsted 2004) learned largely either from adolescence, from external 'sporting' encounters or from time pressed training experiences (Capel 2007). This is further and arguably more powerfully reinforced informally by seeing little to challenge this perception whilst in schools (Stroot and Ko 2006). Should this situation persist, then the 'teaching' of games at primary level is condemned to existing at the lowest levels of psychomotor development and importantly fails to address in any meaningful way cognitive aspects of learning that are concerned with decision making and the higher order application of these skills in context (Bloom 1956; Krathwohl, Bloom, and Masia 1964; Dave 1975). This is not helped by erroneous but strongly held beliefs that these aspects are appropriately addressed by mere participation in games (Laker 2000; Rink 2005; Metzler 2005).

From time to time, concerns of broader training needs in physical education have sought to be addressed through Continuing Professional Development (CPD) sessions for teachers but these have largely failed to get beyond the content of skills and techniques, hindered by the piecemeal approach taken in both planning and funding of these sessions (Armour and Yelling 2004). This has been exacerbated by an erosion of available support for qualified teachers with a significant reduction in the specialist advisory support service (Griggs 2010). Identifying a perceived gap in the market, a plethora of resources has become available to teachers, in either printed form or in human form via the employment of sports coaches (Griggs 2008, 2010). In both cases the focus on skill practices remains uppermost.

This recent trend of primary schools in employing specialist sports coaches to take physical education lessons (Blair and Capel 2008a, 2008b; Griggs 2007) has highlighted concerns that this shift in delivery does more harm than good, as these individuals 'lack a significant amount of information and training possessed by the class teacher which is fundamental to effective teaching and learning' (Griggs 2008, 36). Most importantly, their 'sessions tend to be focused predominantly on pupils' acquisition and development of skills. Coaches rarely give pupils opportunities to select and apply the skills they have learned in different situations' (OFSTED 2009, 14).

This influx of specialist sports coaches into primary schools follows recent high levels of government funding into physical education and school sport through strategies such as Physical Education, School Sport and Club Links (PESSCL) (DfES/DCMS 2003) and Physical Education, School Sport and Young People (PESSYP) (DCSF 2008). A key feature of both is the erroneous conflation of physical education and sport by politicians and policy makers alike, who in many cases use the terms interchangeably (Kay 2003; Wright 2004). Such 'top-down' models have resulted in time, money, resources and, perhaps most critically, pedagogic practices being directed into the primary schools via the secondary and sports development sectors (Griggs 2007). This is not a new phenomenon and historically primary physical education has been heavily influenced in this way (Wright 1996). For example, when a greater proportion of men entered into the teaching profession and subsequently the primary sector, they advocated a 'skills' focused approach which is a typical feature of developing performance in sport (Whitehead and Hendry 1976).

What has resulted in practice, over time, is that the teaching of physical education looks very similar across the country with something of 'an implicit agreement as to what should be included in the curriculum and how it should be taught, with the focus being largely on the sporting model' (Capel 2007, 493). This model focuses primarily on the acquisition of skills within a traditional curriculum, with an unbalanced emphasis upon team games and is taught using a limited range of largely didactic pedagogic approaches (Green 1998; Penney and Evans 1999; Metzler 2000; Ofsted 2002; Kirk and Kinchin 2003). This serves to perpetuate a system where emphasis is placed on providing lessons within a curriculum in which children are being 'busy, happy, and good' (Placek 1983) but with very little or no consideration of theoretical underpinning (Tinning 2006) leading to what Light (2008, 26) refers to as 'Cognitive Dissonance'. Sadly, this aspect has yet to be addressed satisfactorily within teacher training providers and the wider Higher Education sector, not least because of the lack of clarity apparent from those who write and research around this area. The next section serves to review attempts that have been made so far.

Developing ‘understanding’ through game-centred approaches

A number of instructional models have been developed and further refined in order to generate a greater understanding amongst teachers and pupils of games activities within physical education. They have sought to facilitate a deeper understanding of skills and their tactical application, whilst also increasing physical activity levels, pupil engagement, motivation and enjoyment of physical education lessons (Forrest, Webb, and Pearson 2006). Importantly, rather than teaching games through the technical mastery and performance of specific skills, what are referred to as game-centred approaches, focus learning through a conceptual approach. By providing a structure to help teachers place the student at the centre of the learning experience and develop ‘reflective’ and ‘self-directed’ learners (Oslin and Mitchell 2007), they represent situated learning within a social constructivist theoretical framework (Dyson, Griffin, and Hastie 2004; Light 2006). Instruction is moved beyond developing technical competence, towards an increased emphasis on cognitive development (Dyson, Griffin, and Hastie 2004; Griffin and Sheehy 2004). A greater emphasis is placed upon selecting and applying skills and is reflected in improved decision making, choice and performance of skills and game involvement (Allison and Thorpe 1997; Gabrielle and Maxwell 1997; Griffin, Oslin, and Mitchell 1995; Mitchell, Griffin, and Oslin 1997).

Increased motivation, improved decision making and transfer of learning which these game-centred approaches claim to support are located within a well defined landscape of psychological theories (Oslin and Mitchell 2007). The conceptual transfer of principles underlying game play by learners, even when constraints of conditioned games are imposed, utilises the Action Systems Theory and Schema Theory of motor learning (Piggott 1982: Hanford et al. 1997). Transfer is achieved through the thematic grouping of games according to common tactical problems created by specific rules. This categorisation of games into aspects such as net (e.g., tennis, badminton), strike/field (e.g., cricket, rounders) and invasion games (e.g., football, hockey) has provided a means to help identify content and sequencing of games teaching (Almond 1986; Ellis 1983) and has been adopted by the National Curriculum for Physical Education at Key Stage 1 and 2.

The first of these game-centred approaches was specifically aimed at primary school teachers, whereby Mauldon and Redfern (1981) proposed a model for teaching games that encouraged the use of a problem solving approach. By utilising game and skill categories, teachers are encouraged to draw connections through the use of scenarios to emphasise tactical situations. Though providing the basis of subsequent models, Mauldon and Redfern’s work was not widely adopted, yet to date this remains the limit of a specific primary level approach aimed at supporting games-centred teaching. More popular and widely known models are in existence but these have been largely focused upon the secondary sector.

Most famously, using a similar basis of problem solving-centred pedagogy, Bunker and Thorpe (1982) developed ‘Teaching Games for Understanding’ (TGfU) which highlights the motivational aspect for learners of playing games rather than the traditional practising of skills. Games are considered the ideal context in which to develop skills and can be conditioned to highlight specific tactical situations. Therefore, the playing of games becomes the main focus of learning; more specifically the promotion of tactical awareness and decision making is encouraged by helping learners to recognise ‘cues’ to select appropriate responses and predict

possible outcomes. This tactical application precedes the acquisition of specific game skills. Pupils are also encouraged to understand how rules shape games by playing them within categories which are based on the tactical challenges they pose the players.

In response to the difficulty many secondary physical education specialists had in conceptualising or modifying games to highlight important aspects of tactical play, Thorpe, Bunker, and Almond (1984) developed the TGfU model still further. Here teachers are guided through the design of developmentally appropriate games through the use of a hierarchy of tactical complexity. This emphasises that certain aspects of games can be exaggerated to highlight specific tactics, such as the use of a long thin court in badminton to highlight the importance of using depth to outwit an opponent. The use of modified equipment and smaller team sizes to accommodate developmental stages of children means that the key features of the adult forms of these games are retained.

Griffin and Sheehy (2004), however, recognise that the TGfU model demands considerable knowledge and tactical understanding of games activities, which prohibits many teachers from using the model (Turner 2005; Light and Georgakis 2005). Their Tactical Games Model (TGM) includes frameworks which help teachers and learners identify tactical problems and solutions which are common to games within and across game categories. In a similar response to the teaching of games at primary school level, Mitchell, Oslin, and Griffin (2003) argue for the need to integrate and simplify instructional content. This is achieved by utilising similarities between games and integrating key features of games within the same category.

Using similar features of previous approaches, Launder (2001) presents another instructional model based on game play. This ‘Play Practice’ model presents a clarification of games play by providing a framework for designing learning experiences, based upon clear definitions of technique, skill and ‘game sense’. Play practice progressions are developed through principles of shaping play, focusing play and enhancing play. These use similar elements to previous game-centred approaches such as modified and mini games which serve to engage learners and increase the breadth and depth of their understanding of games play.

To best develop this aspect of cognitive development, teachers need the pedagogical skills to ask key questions at the appropriate learning moment, determine and select appropriate game forms to develop understanding of the game and select or create modified games that truly parallel the actual game (Chandler 1996; Light and Georgakis 2005; Howarth 2005; Turner 2005). Most importantly the ability to initiate and manage dialogue between pupils and the teacher and between the pupils themselves is crucial as this is what advocates of game-centred approaches argue is their fundamental strength (Turner 2005). These pedagogical skills and the demands on knowledge and understanding of games pose particular issues for non-specialist and inexperienced teachers (Forrest, Webb, and Pearson 2006). Without them, learning activities and educational dialogue become closed and shallow, reverting to teacher-centred behaviourist approaches and thus the pedagogical strength of these instructional models becomes devalued (Forrest, Webb, and Pearson 2006; Howarth 2005; Piltz 2004).

However, more fundamentally challenging for the teacher is the ambiguity in the conceptual frameworks that form the basis of these game-centred instructional models. These frameworks form the core content and structure upon which understanding of the relationship between skills, tactics and principles of games is

developed. Griffin and Sheehy (2004) present a conceptual framework for problem solving in games which attempts to layer tactical problems with levels of complexity. Rather than pursuing the relationships which can be drawn between the skills that need to be executed to exploit these tactics, the emphasis returns to an instructional focus.

Forrest, Webb, and Pearson (2006) have created a framework of attacking and defensive principles which attempts to simplify the tactical solutions to games. However, these are not linked to skills. A framework which does attempt to provide a conceptual hierarchy of principles, skills and strategies has been constructed by Butler (1997) and situated within a TGfU conceptual framework by Mandigo, Butler, and Hopper (2007). In a similar vein, Mitchell, Oslin, and Griffin (2006) present a series of frameworks based upon the tactical problems of scoring and preventing scoring, created by specific game-based sports. Within this structure connections are then made between the tactical problems and 'off-the-ball' movements and 'on-the-ball' skills. Using association football, Russell (1995) presents 'Principles of Play' in attacking, defending and the transition between these phases of play. Also focusing on a specific sport, O'Leary (2008) connects these Principles of Play with examples of appropriate individual skills in basketball.

These various frameworks do aid a conceptual understanding of games activities, tactics and skills. However, an absence of a coherent rationale and breadth across games activities is clearly evident. This is compounded by ambiguous terminology and indistinct relationships between principles, tactics and skills. Mitchell, Oslin, and Griffin (2006) focus on 'Tactical Problems', while Forrest, Webb, and Pearson (2006) propose attacking and defending 'principles'. O'Leary (2008) discusses 'Principles of Play', which is contrasted by Butler (1997), who conceptualises 'main intentions of a game' and 'offensive and defensive strategies'. When exploring the relationships between skills and tactics, O'Leary (2008) links 'keeping possession' as a principle of play with 'appropriate individual skills'. However, these are not connected with the tactics which players have to employ together to actualise specific principles.

In search of clarity – a new conceptual framework for games

In view of this muddled landscape a clear and consistent framework is needed to avoid confusion over terminology and describe clear relationships between principles, skills and tactics. Using the game categories recognised in previous formats of the National Curriculum for Physical Education and adapting current conceptual thinking, a conceptual framework for invasion, strike/field and net games has been constructed (see Tables 1, 2 and 3). In this framework, 'Principles of Play' are regarded as the overarching strategies which are employed to attack or defend, irrespective of the strengths and weaknesses of an opponent. The 'Tactical Problems' which relate to the 'Principles of Play' are those which are created by the general rules and equipment which distinguish each games category. These 'Tactical Problems' can be overcome by the performance of 'on-the-ball skills' and 'off-the-ball skills' which are techniques applied under pressure exerted by opponents (den Duyn 1997; Magill 2004). 'Off-the-ball skills' are techniques which players who are not in possession can decide to take to aid an attacking or defensive tactic. 'On-the-ball skills' are techniques which a player in possession of the ball can decide to take to aid an attacking or defensive tactic. This framework does not claim to be completely inclusive for all the distinct codified sporting versions of games. Instead,

(continued)

Principles of Play, tactical problems and skills in invasion games.	Tactical problems and solutions	Scoring: Transporting the ball to scoring positions and scoring	Moving the ball into attacking/scoring positions	. Passing ahead of supporting players . Travelling with the ball. Drawing in defenders. Faking/dummying/ turning . Sending the ball wide and/or deep to supporting players . Travelling with the ball	Attacking the goal and scoring
		Maintaining possession of the ball			
	On-the-ball skills	Core Examples:		. On the ball control . Passing	
	Off-the-ball skills	Core Examples:	Supporting the player in possession in positions which are: . passable (low risk of losing possession) . attacking (towards opposition's territory or goal) Getting 'free and open' away from defenders:	. dummying. turning. cutting . faking	Moving into space between and behind defenders e.g., timed runs
		Transition (moving from defence to attack)			
	Principles of Play	Attacking	Supporting	Creating Space	Scoring and Penetration

Table 1.

Table 1. (Continued).

Principles of Play	On-the-ball skills	. Crossing from wide. Passing/travelling between/behind defence. Shooting	Core Examples: . Marking opponentsentering your space. Intercepting. Marking opponents. Closing down	. Intercepting. Tackling. Clearing the ball awayfrom potential scoringareas. Shot stopping. Distributing	
	Off-the-ball skills	. Acting as a target player(s) for player(s) onthe ball	Core Examples: Covering space as a defensive unit Covering undefended attacking space	Delaying/blockingPositioning between thegoal and the attacker Closing down	Positioning to stop a shotClosing down
Tactical problems and solutions	Preventing Scoring:Limiting attacking optionsand regaining possession Defending space		Defending attacking players	Regaining possession	Defending the goal
	Transition (moving from attack to defence)				
	Denying Space and Applying Pressure				
	Defending				

Adapted from Butler (1997); and Mitchell, Oslin, and Griffin (2006); O'Leary (2008); Russell (1995).

(continued)

Principles of Play, tactical problems and skills in strike and field games.	On-the-ball skills	Sending/hitting skills with the intention for it to go in a specificdirection, distance, height/flight:	Core Examples: Throwing overarm/underarm, hitting a stationary object, hitting a moving object	Core Examples: Stopping or catching sent/hit objects which are travelling in the air,along the floor or bouncing atdifferent speeds, flight paths anddirections. Sending objects – rolling, throwingunderarm, overarm as accuratelyand as quickly as possible		
	Off-the-ball movements	Running as quickly as possible to score	Judging where the ball is in the field and how quickly it could beretrieved Keeping track of how quickly the ball is being retrieved	Intercepting sent/hit objects	Retrieving the sent/hit object as quickly as possible to limit thenumber of runs scored	
	Tactical problems and solutions	Scoring as many runs as possible	Core Examples: Once sent/hit, deciding whether toattempt to score and/or judginghow much could be scored	Core Examples:	Choosing which fielding base/wicket/ post to return objects to with theintention to prevent further runs	
		Core Tactical Solutions:Sending/hitting an object into the field to make it as difficult aspossible for the fielding team toretrieve	Defending the target which the bowler is aiming at (e.g., wickets incricket) Preventing Scoring:Limiting runs scored and getting batters out Core Tactical Solutions:Marking the fielding space to limit the sending/hitting options of thebatter by covering width and depth			
	Principles of Play	Sending into space	Staying in	Covering space	Limiting scoring	
			Scoring			

Table 2.

		Bowling with accuracy e.g., using line and length to force the batter tomake mistakes or hit towards aparticular part of the field		
	On-the-ball skills			
	Off-the-ball movements	Backing-up team members in case thesent objects sent too short or toofar	Covering the fielding base/wickets/ post/base when sent objects arebeing returned	
	Tactical problems and solutions	being scored and/or attempt to getthe batter out whilst they arerunning	Delivering the ball to the batter to make it difficult for them to hitand/or to force them to make amistake; miss the ball, miss-hit theball, provide an easy catch, blocktheir wickets (LBW, cricket)	Adapted from Butler (1997) and Mitchell, Oslin, and Griffin (2006).
		If the game involves bowling:		
Table 2. (Continued).	Principles of Play	Getting the batter out		

Table 3. Principles of Play, tactical problems and skills in net games.

Principles of Play	Tactical problems and solutions	Scoring	Preventing Scoring
Using depth and/or width to manoeuvre opponent(s)	On-the-ball/shuttle skills	Sending the ball/shuttle deep – using court depth Sending the ball/shuttle wide – using court width Sending the ball/shuttle deep and wide – using court depth and width Sending the ball/shuttle short and wide – using court depth and width Sending the ball/shuttle into the created space	Attacking weakly returned shots e.g., using a smash or volley Sending (continued) ball/shuttle deep – using court depth
	Off-the-ball/shuttle skills	Setting up an attack by creating space on the opponent's side of the net	Dominating space in own court by limiting the returning options of the opponent e.g., following deep shots in tennis with a move close to the net Recovery to the best position to defend the whole court
Using depth and/or width to manoeuvre opponent(s)		Winning the point	Defending own side of net

Table 3. (Continued).

Principles of Play		
Tactical problems and solutions	Defending against an attack	On-the-ball/shuttle skills: Sending the ball/shuttle wide – using court width Sending the ball/shuttle deepand wide – using court depthand width Returning the smash/dropshot – getting racket to theball/shuttle
		Off-the-ball/shuttle skills: Regaining the attack by:Sending the ball/shuttle deep – using court depth Sending the ball/shuttle wide – using court width Sending the ball/shuttle deepand wide – using court depthand width Sending the ball/shuttle shortand wide – using court depthand width

Adapted from Butler (1997) and Mitchell, Oslin, and Griffin (2006).

it attempts to provide a clear and concise overview of the relationship between core skills and their tactical application.

The tables presented provide the primary school teacher with a framework that ensures consistent terminology and conceptual clarity in order to aid their understanding of how FMS can be applied to tactical problems and how these relate to overarching Principles of Play. This understanding will then enable teachers to create appropriate conditioned games which emphasise the application of specific skills to overcome particular tactical problems that reflect the form of commonly recognised games. It will also aid their ability to ask appropriate questions at key learning moments to foster pupils' understanding of skills and their tactical application within and across games categories.

Conclusions

This paper has been concerned with the lack of understanding that has thus far been developed in primary games lessons. Following an appreciation of the issues that may have mitigated the deeper understanding of games teaching being developed, it becomes clear that this environment has been less than fertile. Despite attempts to address this issue it also becomes apparent that there has been a lack of clarity in the conception of instructional models aimed to support games teaching and specific attention on the primary age phase has also been neglected. In this respect, it is suggested that the proposed frameworks are the first key step to rectifying this lack of clarity. It has been proposed that clarity and consistency can be achieved by focusing upon what are referred to as 'Principles of Play'.

It is hoped that such frameworks provide teachers with a holistic overview of games, their principles, tactics, skills and their inter-relationship. Importantly it should allow practitioners the ability to understand and negotiate the inherent complexity of games and the ability to guide learners through the intricate landscape. By achieving this, more coherent learning experiences should result.

What these frameworks also highlight are the limited role that knowledge and understanding of individual skills and techniques has in developing key aspects of game play, such as decision making. This in turn asks some very awkward questions about the appropriateness of a predominance of skill-based sessions still delivered by both teachers and coaches and for prospective and qualified staff during teacher training and CPD sessions. It is recommended that 'Principles of Play' become of uppermost importance for all interested parties in the (Physical) Education community when conceptualising what constitutes primary games lessons and that skills are merely used in pursuit of these, not instead of them.

References

Allison, S., and R. Thorpe. 1997. A comparison of the effectiveness of two approaches to teaching games within physical education: A skills approach versus a games for understanding approach. British Journal of Physical Education 28, no. 3: 9–13.

Almond, L. 1986. Games making. In Rethinking games teaching, ed. R. Thorpe, D. Bunker, and L. Almond. Loughborough: University of Technology Loughborough.

Armour, K., and M. Yelling. 2004. Continuing professional development for experienced physical education teachers: Towards effective provision. Sport, Education and Society 9, no. 1: 95–114.

Belka, D. 2004. Substituting developmental for traditional games in elementary physical education. Teaching Elementary Physical Education 15, no. 4: 21–4.
Blair, R., and S. Capel. 2008a. The use of coaches to cover planning, preparation and assessment time – some issues. Primary Physical Education Matters 3, no. 2: ix–x.
Blair, R., and S. Capel. 2008b. The use of coaches to cover planning, preparation and assessment time – some issues. Primary Physical Education Matters 3, no. 3: v–vii.
Bloom, B.S., ed. 1956. Taxonomy of educational objectives, Book 1, cognitive domain. New York: David McKay.
Bunker, D., and R. Thorpe. 1982. A model for the teaching of games in the secondary school. Bulletin of Physical Education 18, no. 1: 5–8.
Butler, J. 1997. How would Socrates teach games? A constructivist approach. Journal of Physical Education, Recreation and Dance 68, no. 9: 42–7.
Caldecott, S., P. Warburton, and M. Waring. 2006. A survey of the time devoted to the preparation of primary and junior school trainee teachers to teach Physical Education in England. The British Journal of Teaching Physical Education 37, no. 1: 45–8.
Capel, S. 2000. Approaches to teaching games. In Issues in physical education. ed. S. Capel and S. Piotrowski. London: RoutledgeFalmer.
Capel, S. 2007. Moving beyond physical education subject knowledge to develop knowledge-able teachers of the subject. Curriculum Journal 18, no. 4: 493–507.
Chandler, T. 1996. Reflections and further questions (teaching games for understanding method). The Journal of Physical Education, Recreation and Dance 67, no. 4: 49–53.
Clay, G. 1999. Movement backwards and forwards; the influence of government on PE – an HMI perspective. The British Journal of Physical Education 30, no. 4: 38–41.
Curtner-Smith, M.D. 1996. Teaching for understanding: Using games invention with elementary children. The Journal of Physical Education, Recreation and Dance 67: 24–8.
Curtner-Smith, M.D. 1999. The more things change the more they stay the same: Factors influencing teachers' interpretations and delivery of National Curriculum Physical Education. Sport, Education and Society 4, no. 1: 75–97.
Dave, R.H. 1975. Psychomotor levels. In Developing and writing behavioural objective, ed. R.J. Armstrong. Arizona: Educational Innovators Press.
DeCorby, K., J. Halas, S. Dixon, L. Wintrup, and H. Janzen. 2005. Classroom teachers and the challenges of delivering quality physical education. The Journal of Educational Research 98, no. 4: 208–20.
Den Duyn, N. 1997. Game sense: Developing thinking players. Canberra: Australian Sports Commission.
Department for Children, Schools and Families (DCSF). 2008. Physical Education and sport strategy for young people. London: DCSF.
Department for Education and Employment/Qualifications and Curriculum Authority (DfEE/QCA). 1999. The National Curriculum in England; Physical Education. London: HMSO.
Department for Education and Skills/Department for Culture, Media and Sport (DfES/DCMS). 2003. Learning through Physical Education and sport: A guide to the Physical Education, School Sport and Club Links Strategy. London: DfES/DCMS.
Department of Education and Science (DES). 1991. Physical Education for age 5–16. London: DES.
Doolittle, S.A., P. Dodds, and J.H. Placek. 1993. Persistence of beliefs about teaching during formal training of preservice teachers. Journal of Teaching in Physical Education 12: 355–65.
Dyson, B., L. Griffin, and P. Hastie. 2004. Sport education, tactical games, and cooperative learning: Theoretical and pedagogical considerations. Quest 56: 226–40.
Ellis, M. 1983. Similarities and differences in games: A system for classification. Paper presented at the AIESEP conference, in Rome, Italy.
Evans, J. 1991. A short paper about people, power and educational reform. Authority and representation in ethnographic research subjectivity, ideology and educational reform: The case for physical education. ed. A. Sparkes. In Research in Physical Education and Sport: Exploring Alternative Visions, London: Falmer Press.
Evans, J., B. Davies, and D. Penney. 1996. Teachers, teaching and the social construction of gender relations. Sport, Education and Society 1, no. 2: 165–83.

Evans, J., and D. Penney. 1992. Investigating ERA: Qualitative methods and policy oriented research. British Journal of Physical Education Research Supplement 13, 2–5.
Forrest, G., P. Webb, and P. Pearson. 2006. Games for understanding in pre service teacher education: A 'Game for Outcome' approach for enhanced understanding of games. ed. R. Light. In Conference proceedings for the Asia Pacific Conference on Teaching Sport and Physical Education for Understanding, 32–44. December 14–15. Sydney: University of Sydney.
Gabrielle, T., and T. Maxwell. 1997. Direct versus indirect methods of squash instruction. Research Quarterly for Exercise and Sport 66(suppl.): A-63.
Gallahue, D., and J. Ozmun. 1995. Understanding motor development: Infants, children, adolescents, adults. 3rd ed. Madison, WI: Brown and Benchmark.
Green, K. 1998. Philosophies, ideologies and the practice of physical education. Sport, Education and Society 3: 125–43.
´Grehaigne, J.F., N. Wallian, and P. Godbout. 2005. Tactical-decision learning model and students' practices. Physical Education and Sport Pedagogy 10, no. 3: 255–69.
Griffin, L., J. Oslin, and S. Mitchell. 1995. An analysis of two instructional approaches to teaching net games. Research Quarterly for Exercise and Sport 66(suppl.): A-63.
Griffin, L., and D. Sheehy. 2004. Using the tactical games model to develop problem-solvers in physical education. In Critical inquiry and problem-solving in physical education, ed. J. Wright, D. Macdonald, and L. Burrows, 33–48. London: Routledge.
Griggs, G. 2007. Physical education: Primary matters, secondary importance. Education 3–13 35, no. 1: 59–69.
Griggs, G. 2008. Outsiders inside: The use of sports coaches in primary schools in the West Midlands. Physical Education Matters 3, no. 2: 33–36.
Griggs, G. 2010. For sale – Primary physical education. £25 per hour or nearest offer. Education 3–13 38, no. 1: 39–46.
Hanford, C., K. Davids, S. Bennet, and C. Button. 1997. Skill acquisition in sport: Some applications of an evolving practice ecology. Journal of Teaching in Physical Education 20: 55–77.
Holt, R. 1989. Sport and the British - A modern history. Oxford: Oxford University Press.
Howarth, K. 2005. Introducing the teaching games for understanding model in teacher education programmes. In Teaching games for understanding. Theory, research and practice, ed. L. Griffin, and J. Butler, 91–105, Illinois: Human Kinetics.
Jess, M., K. Dewar, and G. Fraser. 2004. Basic moves – Developing a foundation for lifelong physical activity. The British Journal of Teaching Physical Education 35, no. 2: 23–7.
Kay, W. 2003. Physical education R.I.P? British Journal of Teaching Physical Education 34, no. 4: 6–10.
Kirk, D. 1992. Defining physical education: The social construction of a school subject in post war Britain. London: Falmer.
Kirk, D. 2003. Sport, physical education and schools. In Sport in society, ed. B. Houlihan. London: Sage.
Kirk, D. 2005. Model based teaching and assessment in physical education: The Tactical Games Model. In Physical education: Essential issues, ed. K. Green, and K. Hardman, London: Sage.
Kirk, D., and G. Kinchin. 2003. Situated learning as a theoretical framework for sport education. European Physical Education Review 9, no. 3: 221–36.
Krathwohl, D.R., B.S. Bloom, and B.B. Masia. 1964. Taxonomy of educational objectives, Book 2, affective domain. London: David McKay.
Laker, A. 2000. Beyond the boundaries of physical education: Educating young people for citizenship and social responsibility. London: Routledge/Falmer.
Launder, A.G. 2001. Play practice. The games approach to teaching and coaching sports. Champaign, IL: Human Kinetics.
Lawson, H.A. 1986. Occupational socialization and the design of teacher education programs. Journal of Teaching Physical Education 5, no. 1: 107–16.
Light, R. 2006. Accessing the inner world of children: The use of student drawings in research on children's experiences of game sense. ed. R. Light. In Conference proceedings for the Asia Pacific Conference on Teaching Sport and Physical Education for Understanding, 72–83. December 14–15. Sydney: University of Sydney.

Light, R. 2008. 'Complex' learning theory in physical education: An examination of its epistemology and assumptions about how we learn. Journal of Teaching in Physical Education 27, no. 1: 21–37.
Light, R., and S. Georgakis. 2005. Integrating theory and practice in teacher education: The impact of a game sense unit on female pre-service primary teachers' attitudes towards teaching physical education. Journal of Physical Education New Zealand 38, no. 1: 67–80.
Magill, R.A. 2004. Motor learning and control: Concepts and applications. 7th ed. Boston: McGraw-Hill.
Mandigo, J., J. Butler, and T. Hopper. 2007. What is teaching games for understanding? A Canadian perspective. Physical Education and Health Journal 73, no. 2: 14–20
Mangan, J.A. 1981. Athleticism in the Victorian and Edwardian public school. Cambridge: Cambridge University Press.
Mauldon, E., and H. Redfern. 1981. Games teaching: An approach for the primary school. Plymouth: Macdonald and Evans.
McIntosh, P. 1976. The curriculum of physical education – An historical perspective. In Curriculum development in Physical Education, ed. J. Kane. London: Crosby Lockwood Staples.
McIntosh, P. 1980. Fair play. London: Heinemann Educational.
Metzler, M. ed. 2000. The Physical Education Teacher Education Assessment Project 19, no. 4. Journal of Teaching in Physical Education.
Metzler, M.W. 2005. Instructional models for physical education. Arizona: Holcomb Hathaway Publishers.
Mitchell, S., L. Griffin, and J. Oslin. 1997. Teaching invasion games: A comparison of two instructional approaches. Pedagogy in Practice: Teaching and Coaching Physical Education 4, 162–72.
Mitchell, S., J. Oslin, and L. Griffin. 2003. Sport foundations for elementary physical education: A tactical games approach. Illinois: Human Kinetics.
Mitchell, S., J. Oslin, and L. Griffin. 2006. Teaching sport concepts and skills: A tactical games approach. Leeds: Human Kinetics.
Morgan, P., and M. Bourke. 2005. An investigation of pre-service and primary school teacher perspectives of PE teaching confidence and PE teacher education. ACHPER Healthy Lifestyles Journal 52, no. 1: 7–13.
Morgan, P., and S. Bourke. 2008. Non specialist teachers' confidence to teach PE: The nature and influence of personal experiences in schools. Physical Education and Sport Pedagogy 13, no. 1: 1–29.
National Curriculum Council (NCC). 1992. Non statutory guidance for physical education. London: HMSO.
Ofsted (Office for Standards in Education, Children's Services and Skills). 2002. Physical education in primary schools. London: TSO.
Ofsted (Office for Standards in Education, Children's Services and Skills). 2004. Physical education in secondary schools. London: TSO.
Ofsted (Office for Standards in Education, Children's Services and Skills). 2005. Physical education in primary schools. London: TSO.
Ofsted (Office for Standards in Education, Children's Services and Skills). 2009. Physical education in schools 2005–2008. London: TSO.
Okley, A., and M.L. Booth. 2004. Mastery of fundamental movement skills among children in New South Wales: Prevalence and sociodemographic distribution. Journal of Science and Medicine in Sport 7, no. 3: 358–72.
O'Leary, N. 2008. Teaching games for understanding in learning to outwit opponents. Physical Education Matters 3, no. 4: 18–20.
Oslin, J., and S. Mitchell. 2007. Game-centred approaches to teaching physical education. In The handbook of physical education, ed. D. Kirk, D. Macdonald, and M. O'Sullivan. 627–51. London: Sage Publications.
Penney, D. 2000. Physical education, sporting excellence and educational excellence. European Physical Education Review 6, no. 2: 135–50
Penney, D., and J. Evans. 1997. Naming the game: Discourse and domination in physical education and sport in England and Wales. European Physical Education Review 3, no. 1: 21–32.

Penney, D., and J. Evans. 1999. Politics, policy and practice in physical education. London: FN Spon/Routledge.
Piggott, B. 1982. A psychological basis for new trends in games teaching. Bulletin of Physical Education 18, no. 1: 17–22.
Piltz, W. 2004. Reading the game – A key component of effective instruction in teaching and coaching. Paper presented at the 2nd International Conference: Teaching Sport and Physical Education for Understanding, December 11–14, in Melbourne.
Placek, J.H. 1983. Conceptions of success in teaching: Busy, happy, and good? Teaching in physical education, ed. T. Templin and J. Olsen. Champaign, IL: Human Kinetics Publishers.
Placek, J.H., P. Dodds, S.A. Doolittle, P.A. Portman, T.A. Ratliffe, and K. Pinkham. 1995. Teaching recruits' physical education backgrounds and beliefs about purposes for their subject matter. Journal of Teaching in Physical Education 14, no. 1: 246–61.
QCA (Qualifications and Curriculum Authority). 2007. The National Curriculum for Physical Education at Key Stage 3 and 4 [Online]. http://curriculum.qcda.gov.uk/
Rink, J.E. 2005. Teaching physical education for learning. 5th ed. St. Louis, MI: McGraw-Hill Humanities.
Russell, R., ed. 1995. The FA Football Development Programme: Football curriculum guide. London: The Football Association.
Solmon, M.A., and M.H. Ashy. 1995. Value orientations of pre-service teachers. Research Quarterly for Exercise and Sport 66: 219–30.
Stroot, S.A., and B. Ko. 2006. Induction of beginning physical educators into the school setting. In The handbook of physical education, ed. D. Kirk, D. Macdonald, and M. O'Sullivan, 425–48. London: Sage Publications.
Thorpe, R., D. Bunker, and L. Almond. 1984. A change in the focus of games teaching. In Sport pedagogy: Olympic scientific congress proceedings, ed. M. Pieron, G. Graham. Illinois: Human Kinetics.
Tinning, R. 2006. Theoretical orientations in physical education teacher education. In The handbook of physical education, ed. D. Kirk, D. Macdonald, and M. O'Sullivan, 369–85. London: Sage Publications.
Turner, A.P. 2005. Teaching games for understanding at the secondary level. In Teaching games for understanding: Theory, research and practice, ed. L. Griffin and J. Butler, 71–89. Illinois: Human Kinetics.
Van Beurden, E., A. Zask, and U. Barnett. 2002. Fundamental movement skills? How do primary school children perform? The 'Move it Groove it?' program in rural Australia. Journal of Science and Medicine in Sport 5, no. 3: 244–52.
Warburton, P. 2001. A sporting future for all: Fact or fiction. The British Journal of Teaching Physical Education 32, no. 2: 18–21.
Whitehead, N., and L. Hendry. 1976. Teaching physical education in England – Description and analysis. London: Lepus.
Wright, J. 1996. Mapping the discourses of physical education: Articulating a female tradition. Journal of Curriculum Studies 28, no. 3: 331–51.
Wright, L. 2004. Preserving the value of happiness in primary school Physical Education. Physical Education and Sport Pedagogy 9, no. 2: 149–63.

Appendix 5.

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Transactions in primary physical education in the UK: a smorgasbord of looks-like-sport

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Background: Crum proposes the term 'movement culture' as a means to best understand the relationships between PE and wider movement practices. Learning within movement culture is practical and embodied, and integral to the cultural and institutional contexts within which PE is situated. Purpose: Using visual data gathered from PE lessons within a UK primary school this paper aims to identify movement cultures across the observed PE lessons, and understand how these movement cultures are shaped and maintained by analysing how teachers and pupils' actions-in-on-going-events make the movement cultures something 'in-common'. Participants, research design and data collection: A mixture of Year 5 and 6 PE lessons were video recorded within a primary school in the West Midlands. Careful attention was paid to the ethical considerations involved in the collection and storage of the data. Data analysis: By dissolving the dualism between an individual and their environment, Dewey and Bentley's (1949/1991) transactional theory of learning supports an analysis of action in context. Application of this theory enables the researcher to explore actions-in-on-going activities and understand how this action shapes the movement culture within which it occurs. In this process we did not use theory to deduce the participants' intensions or potential changes in their cognitive structures; rather it was the functions' actions constituted in the observed situation, which lead the analysis. Findings: The existence of a multi-activity idea of sampling different sports within this study of primary PE amounted to eating from a smorgasbord where the flavours of the dishes initially looked different, but actually tasted the same. Each dish was differentiated by the use of contrasting equipment, physical locations and named activities. In reality what was realised was a diluted, repetitive and overriding flavour of looks-like-sport. Pupils were tasked with actions which functioned to produce a stage managed show of controlled activity. This was supplemented by their compliance to strict behaviour codes and by attempting to make highly cooperative tasks and games work. This was aided by the adoption and acceptance of different roles. Succeeding within this movement culture demanded an implicit understanding of the need to coordinate actions with others cooperatively. Conclusions: The standout flavour within this smorgasbord involved gymnastics, where the removal of competition and provision of space for pupils to re-actualise their knowledge, created an interesting blend of pupil engagement, sustained physical activity, creativity, inclusion and cooperation. These interesting flavours may have been curtailed by a need to replicate movements acceptable to doing gymnastics-for-real and suggests that other forms of looks-like-sport may have the potential to elicit similar action. Continued investigation of the directions of actions-in-context-in-PE-settings would aid our understanding of the creation, nature and reproduction of learning experiences within this looks-like-sport movement culture. More specifically, analysis of the educational content and

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pedagogy of the recorded PE lessons within this school would support our understanding of how teachers and pupils negotiate the complex mix of educational, sport and health discourses that constitute the looks-like-sport movement culture.

Keywords: movement culture; transaction; primary physical education

Introduction

Research has shown that different movement cultures are on offer in school physical education (PE) (Crum 1993; Kirk 2010); however, less is known about how these movement cultures are created and negotiated through PE practices. Crum (1993, 341) proposes the term 'movement culture' as a means to recognise that PE practices should be considered as mutual cultural parts of a consistently changing landscape in which 'people realise and experience important values, such as recreation, health, adventure, excitement, togetherness, performance, and self-realisation'. People act in different ways to achieve this realisation and these actions are integral to different purposes and motivations. As a result different types of movement cultures can be created, for example; elite sport, competitive club sport, recreation sport, fitness sport, risk and adventure sport, lust sport and cosmetic sport (Crum 1992).

Crum (1993) further argues that human movement is a dialogue between the moving individual and movement-induced meanings created by their interactions within the world. Whilst institutions, such as schools, compartmentalise movement culture by defining it thorough curricula and pedagogical practices (see, e.g. Kirk 2010), individuals are actively engaged in creating their own movement biographies within and beyond the school gates (Crum 1993). Using a national historical perspective, Kirk (2010) has identified a dominant form of movement culture within schools, 'PE as Sport Techniques'. Within this form of movement culture, pupils are taught techniques and skills mainly in isolation from their movement contexts. Deeply embedded is a teaching model of warming-up, skill practising, followed by a realisation of these skills within the sport context, such as a game, a lesson structure recommended to UK PE teachers 21years ago (NCC 1992).

In order to understand what constitutes movement cultures at a primary school level, this paper builds upon situated approaches (see, e.g. MacPhail, Gorely, and Kinchin 2008) and the French didactique tradition (see, e.g. Amade-Escot 2006) of analysing learning as ongoing relations between pupils, teachers and the cultural dimensions of the learning situation (see, e.g. Quennerstedt et al. 2014). It utilises a method of investigating learning adopted by Quennerstedt (2013a, 2013b) and Klaar and Ohman (2012) which takes 'action in an ongoing activity as the point of departure' (Quennerstedt, Ohman, and Ohman 2011, 160). Based upon the concept of transaction developed by the pragmatic philosopher Dewey, such an approach enables the simultaneous investigation of different aspects of teaching and learning as it occurs in context. For Dewey, communication does not involve a transfer of information but entails a practical coordination of action, which creates something 'in-common' (Beista and Burbules 2003). Using visual data gathered from PE lessons within a UK primary school, this paper aims to:

(1) identify movement cultures across the observed PE lessons.
(2) understand how these movement cultures are shaped and maintained by analysing how teachers and pupils' actions-in-on-going-events make the movement cultures something 'in-common'.

Movement cultures in PE

In his analysis of the historical position of physical activity within UK culture, Kirk (1999, 65) proposes a revival of the term 'physical culture', because it provides greater historical continuity when analysing the 'embeddedness' of the maintenance, representation and regulation of the body in various cultural practices. Crum (1993), however, rejects the term 'physical' claiming that it has the potential to invoke mind-body dualisms. He argues such dualisms ignore the cultural mutuality of human movement which exists as a dialogue between the moving individual and movement-induced meanings created by their interactions within the world. According to Crum (1994), 'movement culture' is a common umbrella term within German and Dutch languages containing the set of movement actions and interactions (sport, play, dance or other fitness activities) that encompass a group's leisure (Crum 1993, 341). Movement culture encompasses all leisure actions in which the human moving act is the 'essence' and 'refers to the way in which a social group deals with the need and desire for movement beyond labour or maintaining life' (Crum 1993, 341). This process occurs across institutional structures such as in schools and sports associations and informal cultural spaces such as impromptu games in a local park. In PE pupils filter experiences through their own personal experiences and as Banks (1993) argues, PE teachers should take this into account when planning learning. Movement culture thus provides a useful perspective from which to approach the investigation of contemporary PE by viewing movement practices as mutual cultural parts (see Griggs and Ward 2012). The extent to which learning within the movement culture of PE has been examined remains with notable exceptions (MacPhail and Kinchin 2004; Mowling, Brock, and Hastie 2006; McEvilly, Verheul, and Atencio 2013) quite limited, especially in primary PE.

Researching practices within PE

Analysis of the development and continuity of movement practices within PE has been facilitated by sociocultural and situated perspectives, specifically the idea of learning as participation within communities of practice. MacPhail, Gorely, and Kinchin (2008, 101), for example, explore how pupils' interactions with their environment are rooted within and created by 'layers of physical, sociocultural and institutional contexts'. In these approaches, knowledge and knowledge production in PE is viewed as a process of participation in and becoming a member of PE practice (Quennerstedt 2013b).

This paper takes also takes a sociocultural starting point, using the pragmatic philosophy of Dewey, specifically his conception of 'transaction' developed in his work 'Knowing and the known' (Dewey and Bentley 1949/1991). Quennerstedt (2013a, 2013b) argues that Dewey's theory of knowledge offers the researcher the opportunity to build upon situated and sociocultural theories but also address some of the methodological challenges presented by Hodkinson, Biesta, and James (2007). This can be achieved by Dewey and Bentley's (1949/1991) dissolution of the dualism between an ¨individual and their environment (Klaar and Ohman 2012). In this perspective, the environment is a mutual location of 'enmeshed' physical and cultural conditions and is not

> something around and about human activities in an external sense; it is their medium or milieu, in the sense in which medium in intermediate in the execution or carrying out of human activities, as well as being the channel through which they move the vehicle by which they go on. (Dewey and Bentley 1949/1991, 244)

It is in transactions, that is, in and through actions which are integral to the environment, that the individual and their physical and cultural surroundings become united. Dewey and Bentley (1949/1991) argue that it is within the transactional process that learning occurs and therefore, it should not be regarded as something which exists in the mind but as a collection of relations in certain events. From this perspective, learning is considered as social construction, as an integral part of a physical world which embraces cognitively and emotional active human beings (Wickman and Ostman 2002). A transactional perspective subsequently offers an approach from which to investigate practices within PE that are embodied in both spoken and physical actions (Quennerstedt, Ohman, and Ohman 2011). Transactions are situated within a context of habits, experience and culture; meanings or what is learnt, consequently cannot be understood as isolated from situations, events and transactions. Therefore, when exploring movement cultures within PE, participants should be investigated 'as part of the PE context in terms of participants-acting-in-PE-settings' (Quennerstedt 2013b, 45).

Exploring primary PE as movement cultures

From this perspective, PE is an institutional location within which cultural meanings of moving, within and beyond the school gates, are realised (Crum 1993). PE lessons are consequently settings where teachers and pupils will re-actualise their own understandings and interpretations of sports and physical activities and in doing so will create movement cultures, particular to their school and lessons. Hence, by studying actions-in-PE-settings we can better identify and understand what is being created. This can then be used as a resource to support staff in reflecting upon teaching and learning within their particular movement culture (Quennerstedt et al. 2014).

In this paper, pupils' different encounters with PE curricula, instruction, locality, equipment, other pupils and adults are understood as transactional experiences.

This includes actions such as hitting a tennis ball to a partner, in addition to the passive phase of undergoing the consequences of such action on the self, the partner, other people and the objects themselves. Pupils are not always involved in investigative exploratory processes and sometimes their actions are based upon habits, these habits-of-action are exhibited when an action continues without interference into the next act, such as the automatic hitting of a returned ball from a partner. It is through these transactions that individuals not only construct their own individual world but also create a shared intersubjective world (Biesta 1994). Within this world, communication is not regarded as the simple transfer of information from one mind to another, rather, as Dewey argues, that it involves the practical coordination of action which creates something 'in-common' (Beista and Burbules 2003).

Methods

Research design

An observational case study was conducted in order to capture and analyse actions-in-on-going-events within the everyday context of primary school PE lessons (Ohman and Quennerstedt 2012). Interactions within such movement contexts are too complex and comprehensive to capture through observation via field notes and it is only through repeated viewing of video footage that critical events can be highlighted and analysed (Ohman and Quennerstedt 2012). Video-recordings were therefore made of an opportunistic

sample (Bryman 2008) of seven Year 5 and 6 PE lessons within a state maintained urban primary school situated in a large town in the West Midlands. The primary school was a larger than average, serving just over 500 pupils aged 3 – 11. It had a significantly higher than average proportion of pupils with statements of Special Educational Needs and pupils registered as School Action and School Action Plus. OFSTED reported in 2012 that pupils 'make good progress from what are often very low starting points' (4).

Ethical considerations

With a proliferation of readily available technologies that enable the recording and instant viewing of images and video, children live in a world where audio-visual representations of themselves and others form part of their daily lives. However, using these technologies to document and analyse peoples' actions within a formal and compulsory context, such as PE lessons presents significant ethical issues (Quennerstedt, Ohman, and Ohman 2011; Robson 2011; Klaar and Ohman 2012). These required careful consideration and strict adherence to detailed procedures before ethical approval of the study was granted by a UK University Ethics Committee.

Data analysis

The data amounted to approximately 7½ hours of film. Despite this quantity of data, video-recording cannot capture the plethora of interactions within PE lessons in their complete entirety and a complete and comprehensive sociocultural account is very difficult if not impossible to achieve. Like other research tools, video-recordings can only produce selective data and a partial view of the observed PE lessons. Likewise, actions can only be interpreted and analysed in relation to the experiences of the researcher and personal distance from the data is a methodological impossibility (Ohman and Quennerstedt 2012). Transcripts of the visual data in this study, therefore, are not presented as objective representations of action. Rather, they become records of the events as seen through the researchers' eyes and analytical tools.

The focus of this study was the cultural aspects of actions-in-on-going events within primary PE lessons. In this perspective, this dimension of action cannot be isolated from the individual and social dimensions of action, as they are integral and a mutual aspect of the movement culture (Rogoff 1995). In view of this indissoluble relationship, the cultural aspect was brought to the foreground and analysed in relation to the individual and social dimensions of the movement culture (Rogoff 1995). Analysis of the data did not use theory to deduce the participants' intensions or potential changes in their cognitive structures; rather it was the functions of actions, constituted in the observed situation, which lead the analysis. Alexander (2001) provides an analysis of education cultures at various comparative levels including international and classroom perspectives. In his exploration of macro- and micro-aspects of national education provision, the relations between these levels of educational culture are revealed. In this study, we recognise that the movement cultures within PE will have relations to learning cultures in the sample school's classrooms and will be reflective of subject specific and wider policy discourses at a school, Local Education Authority and national level. However, rather than use these discourses as a point of departure, the aim here is to analyse the specific movement culture of a particular school through action as a point of departure. The purpose of the analysis was not to seek relations between what is observed and national/local policy, by confirming or not the influence of these discourses in practice. It is beyond the scope of

this paper to analyse this understanding in relation to school, regional and national movement cultures. Rather we aim to analyse how the taken for granted actions and actions which go against the flow of actions, constitute the sample school's PE movement cultures.

Lessons were initially studied in their entirety in order to best understand the patterns of actions-in-on-going-events and to begin identification of consistency and changes in actions (Quennerstedt, Ohman, and Ohman 2011). During this stage, initial field notes were developed which registered particular events that appeared within each lesson, for example, events where pupils acted against the main flow of actions. Within this process, preliminary labels were used to identify specific interactions and content, of the actions-in-on-going-events. These labels then directed further in-depth analysis using detailed transcripts of embodied and spoken actions, including the locality and involvement of artefacts (Ohman and Quennerstedt 2012). These were then examined in relation to when action-in-on-going-events were made 'in-common', with particular attention being made to the functions of the actions; specifically in relation to how they shaped and maintained the movement culture. For example, teachers guide pupils' actions in particular directions and what was of interest in this study was how pupils acted-in-context without hesitation. These events provided possible evidence of what was 'given' and 'obvious', without question or challenge. Patterns of these actions within or across lessons enabled analysis of what constituted the movement cultures. Also of interest were actions-in-on-going-events which took a different direction to the main flow of actions, including events when these actions were redirected by the teacher to fit back within the movement culture. Here what constitutes the movement culture becomes more conspicuous when actions can be identified which resist what is obvious and in-common.

Findings: a looks-like-sports movement culture

Seven primary PE lessons were reviewed which covered two main activity areas: gymnastics and games. Within the latter activity area, pupils were taught badminton, tennis and rounders. Five out of the seven lessons were led by Learning Support Assistants and two lessons were taken by the pupils' class teacher. What emerged from the analysis of these lessons was not a portfolio of different movement cultures. Instead there was a consistent theme of what was made 'in-common' across all the lessons. Despite the differences in adults leading and pupils participating in the PE lessons, the movement culture constituted of a monoculture of what can be called 'looks-like-sport'.

The dominance of sport discourses within primary PE is a common reported feature within the literature (see, e.g. Griggs 2007, 2008, 2010). Within this movement culture, there appeared an overriding commitment to direct pupils to participate in named sports using regulation equipment to uphold the idea of playing sports-for-real (Quennerstedt 2013a, 58). However, what was observed did not reflect these sports as they exist in codified organised forms outside the school gates. Actions across the lesson observed contrasted with Kirk's (2010) idea of contemporary PE as 'Sport Techniques'. Whilst artefacts of sport were utilised in lessons to establish the idea of 'doing sport', what was created had little relationship to traditional notions of sport. In particular, the 'warm-up' and 'play a game' structure of the lessons omitted the technique or skill learning, reflective of Kirks critique of PE, and reported in the primary school sector by OFSTED (2002, 2005, 2009). If the movement culture in the school were to be considered 'PE as Sport Techniques', we would have expected to see pupils warming-up to physiologically prepare themselves for their exertions in practicing and playing. Pupils would have been directed to the reproduction of techniques, representative of those required by specific sports and we would have

expected to see pupils applying these actions within competitive or sport like scenarios. For example, if pupils were playing tennis-for-real, we would have observed rackets being used to produce recognisable shots to play against others in identifiable courts with nets or barriers.

Within the movement culture identified in this study, pupils completed warm-ups; however, in reality, they rarely experienced any rigorous physical activity. The actions pupils were required to produce at the start of lessons had little connection to physiological preparation or to the main content of the lesson. When pupils were tasked with playing competitive games, both teachers' and pupils' actions functioned to make 'in-common', a staged managed rollout of play, which negated tension between opponents. When practicing, pupils were tasked with producing actions, which functioned to create and maintain a show of controlled busy activity. This was supplied through the teacher's desire for pupil's actions to be co-operative, such as using passing hits in tennis to practice and to play against others in a tennis tournament. When some pupils re-actualised their knowledge of actions from sport-for-real, teachers considered these actions as deviant behaviour. What resulted was and an implicit agreement between teachers and pupils to maintain an exhibition of activity, a facade, behind which lay a cultural representation of sport very different to doing sports-for-real. This looks-like-sport movement culture was shaped and maintained through three themes of action; (i) following rules, (ii) making it work and (iii) playing roles.

Following rules

Whilst sampling a curriculum of different sports, an implicit contract existed that all pupils were to follow teacher instructions and complete the tasks set, and this formed the guiding rails for pupils' actions. Tasks and routines were constructed to reinforce pupils' adherence to this behavioural code, and this was made 'in-common' across all lessons. Pupils were required to work on their own or in pairs and remain on task for long periods of time. Lining-up and waiting for a turn to perform was particularly important. For example, in Year 5 tennis, the whole class lined up in pairs for their chance to play a rally game with the teacher and another pupil over one solitary net, but with no discernible lines. In this lesson, the class were initially tasked with tipping a ball up on their rackets individually. After 11 minutes, they were called in by the teacher:

> The class gather around the teacher. Two pupils Shane and Jordan are still playing with their tennis balls. Teacher: 'Shane and Jordan come-on quickly!'. The group of pupils talk as they wait for the teacher to give instructions. The teacher blows her whistle; 'We are going to have less time in ICT at this rate because we are not listening! Come-on! Right! The other group who are waiting for the net'. Michael stands at the back and bounces the ball with his racket on the floor. Teacher: 'Keep the ball still Michael! Shane! Shane, you have lost time now! While some practice over the net, the others, what I would like you to do is just practice by passing the ball to each other without a net OK? That's all I want you to do is have a go. Just practice'.
>
> Jordan walks away from the group and bounces the ball on his racket. Shane does the same then hits two forehand shots in a row using the side netting of the tennis court. Jordan copies him. Teacher: 'Right Jordan that's time-off ICT, Shane that's time-off ICT. If you carry on boys there will be no PE or ICT this afternoon and you will [be removed from the lesson]. I am treating those people who can follow instructions this afternoon!'.

Taking part in PE within this movement culture is about following instructions or face consequences. Two pupils decide to re-actualise their knowledge of hitting in tennis by

showing their ability to hit recognisable forehand and backhand shots using the fence as a partner. However, what is required is to pass the ball to a partner, not hit it with force so your partner cannot retrieve it, as would be the case in tennis-for-real. Jordan and Shane make the mistake of not following the instructions by using actions which are not co-operative. Their knowledge of hitting in tennis-for-real was not of value here, deviant and punishable by losing time from learning in another 'high cache' curriculum area. They are being expected to participate in looks-like-tennis which amounts to passing co-operatively, stopping and listening when told to and lining-up patiently to rally over a net. Pupils' re-actualisation of hitting in tennis-for-real was common across both Years 5 and 6 and as in this example above, it was either redirected by the teacher through highlighting its deviant nature or was ignored by the teacher completely. In the latter case, attention was not drawn to how their actions may be limiting the intended learning; co-operative passing. As a consequence, pupils' actions remained unfocused and unproductive either in improving their ability to pass to each other or in fostering and applying their knowledge of hitting in tennis-for-real.

Following rules and working co-operatively formed key success criteria to being a valued participant within the movement culture. When completing warm-up tasks, pupils were expected to 'try' even when there was little logic to putting in physical effort. In Year 6 gymnastics and Year 5 badminton, pupils completed stretches and callisthenic activities which bore little or no relation or connection to the main activity of the lesson. Following their physical exertions, most pupils were then expected to remain still to listen to instructions. When preparing for a looks-like-tennis lesson, Year 6 pupils were instructed to run to different lines of a made-up tennis court improvised from various other permanent lines. They completed this activity on-mass, ensuring it posed little test of their ability to memorise the lines as they could simply follow others. Pupils were instructed by the teacher to drop out and sit to the side if they were last to the line, drawing the spotlight on individual pupils' commitment to keep running and follow the teacher's instructions. Pupils sitting out had the opportunity to talk with their friends and also became spectators to the physical action, as we would see in sport. They became witnesses to the commitment and 'trying' of those left in and ironically lost any bodily 'warmth' was lost. The purpose of warming up activities in this looks-like-sport movement culture was not about physiological preparation. They were to test a commitment to doing as instructed and demonstrate physical effort.

Doing as instructed had a deeper significance particularly when non-conformity to teachers' instructions was overt and on a large scale. This was notably evident when all pupils were tasked with producing the same actions together in the same location:

> The Year 6 pupils have changed into their PE kit and make their way outside. While the class were changing three pupils have been transporting tennis equipment from the PE store into a large rectangular fenced area to the side of the playground. As these pupils watch, the remainder of the class are instructed by the teacher to line up behind a thick white line which transects part of the playground. Instructions are then given to run a circuit around various features of the playground of approximately 150 m in length, ending-up in the large fenced area. The class are given the instruction to 'Go!'. As they run the pupils in the fenced area shout at the pupils. One of these pupils shouts . . . . . (inaudible) . . . . . 'Cheat! We have a cheater and their name is . . . . . '. The teacher observes from the middle of the playground then moves into the fenced area as the pupils return from their run. Two boys have completed the course diligently; the other pupils have taken various short cuts, some pupils run, others walk or completed a combination of both. As the class arrive back, they are told by the teacher to line-up behind a line. As the teacher places the pupils along the line an argument ensues between a group of boys at one end of the line. The teacher responds to a boy who claims some pupils

> cheated ‘ . . . they are only cheating themselves my love’. The argument continues as the teacher moves along the line of pupils asking them to spread down the line. She moves back to the group of boys and addressed the same boy ‘ . . . whose voices can I hear? They are only cheating themselves. Did you cheat?’ Boy: ‘No’, Teacher: ‘Then you should be proud of yourself’. The pupils then stand still while instructions are given, which last for 8 minutes.

Not doing the warm-up as instructed was the subversive action chosen by the majority of the pupils at the start of this lesson. Those who completed the task as asked found it difficult to accept that others were allowed to break the rules. This created a potentially unstable position for the teacher within a movement culture of following rules and instructions. Running around the circuit as instructed is given moral imperative, whereas not doing as instructed meant pupils have not only disobeyed instructions, but worse, they have cheated themselves. What have they cheated themselves from? Rather than drawing attention to the physiological disadvantages and risks of not completing a warm-up correctly, the teacher focuses on the morality of pupils’ actions. The implication is that by not doing as asked the other pupils have cheated themselves from being morally sound pupils, by defying a behaviour code which entails submitting to the rules. If you do the latter you can be ‘proud’, safe in the knowledge that you can rise above the immoral behaviour of others.

In order to maintain a looks-like-sport movement culture, pupils had to follow the rules. Transgressing these rules meant that the actions the teacher wanted the pupils to produce could not be performed. Breaking the rules contravened a moral code of doing as instructed, regardless of what a pupil might feel, think or know. Warming up in particular had little physiological purpose rather it presented a stage for pupils to demonstrate their commitment to, or rejection of, this moral code. Re-actualising knowledge from sports-for-real was not welcomed because the uncooperative functioning of these actions, for example, hitting a ball in tennis so your opponent cannot return it, meant pupils did not look-like they were consistently engaged in cooperative sport-like actions.

Making it work

To ensure a flow of looks-like-sport action, pupils within the identified movement culture were charged with understanding and succeeding at highly relational tasks, particularly within games. These tasks functioned to create cooperative movements which resulted in looks-like-sport actions. For example, within the Year 6 and 5 looks-like-tennis lessons, pupils were consistently instructed for the majority of the hour session to pass the ball back and forth directly to a partner with ‘control’ as ‘anyone can whack it’. Very little guidance was provided to support the pupils in realising this task and those with some knowledge of co-operative passing had a distinctive advantage in generating a rally. The majority of pairs acted without hesitation to spread themselves out and get on with the task themselves. Being successful in this movement culture was not just about achieving a co-operative rallying; it was about staying on task and looking-like you were having ‘a go’.

Pupils accepted their responsibility to negotiate the challenges created by this task. Their solutions involved seeking a partnership with the teacher or simplifying the task to the self-tipping of the ball on their racket. Opportunities for pupils to partner a single teacher were limited, so pupils experiencing difficulties immediately copied the teacher’s solution of self-tipping or persisted at trying to generate a rally. Acting cooperatively was a constant feature of the pupils’ actions and this was realised through the provision of tips and encouragement to partners who were unable to return the required pass:

> Maddie encourages her partner, Teagan who is sitting down on the floor to stand-up and rally with her. Maddie has put her racket down and feeds the ball to Teagan who is encouraged to hit the ball back for her to catch. Maddie: 'Be ready!' she throws the ball underarm and goes to Teagan's right who misses it, but moves quickly to retrieve it. Teagan: 'You said be ready!'. Maddie: 'Be ready before I throw it!'. She feeds the ball and Teagan hits it in return '(inaudible) not too (very loudly) hard!' Maddie runs to retrieve the ball and feeds again, Teagan hits it and Maddie catches. Teagan: 'I hit it!' Maddie: 'You hit it yes!'.
> The feeding and hitting continues. When there is a hit, bounce and catch, Maddie responds with a loud 'Wooooo!'. Next, the ball is hit too hard and off-line Teagan covers her mouth with her hand as her partner runs fast and far to retrieve the ball.

Maddie's actions here functioned to make 'in-common' the teacher's request. Her understanding of the relational nature of the task is clearly demonstrated in her decision to provide cues and use an underarm feed, to make her delivery more predictable for Tegan to hit. Verbal celebration when a reciprocal feed, bounce, catch is achieved reinforces her desired outcome. Although they were both not using their rackets, Maddie and Teagan make their contribution to the movement culture by cooperating to generate functionally coordinated actions which look-like they are engaging in tennis-like action. This was also the case for those who chose to self-tip a ball on their racket rather than continue to struggle to achieve a rally of passing hits with their partner.

In the absence of pedagogical intervention from the teacher, the coordination of pupils' cooperative actions was fundamental to the supply of a flow of looks-like-sport action. Using one portable net, no discernible lines and playing doubles, a class of 28 Year 6 pupils were presented with the prospect of playing a tennis tournament. While four pupils played under the direction of the teacher, the others followed the instruction to go and 'really practice' by the teacher. Some pupils remained close to the action, lining the side of the game to watch and be ready to be chosen for the next game. A significant proportion of pupils however, absented themselves from the area altogether to 'practice'. As the tournament progressed, some gradually filtered back into the space and were permitted to sit down. If not actually following the game, they became physical representations of 'spectators' supporting the legitimacy of the exclusive competition. Anyone considered not to be practicing incorrectly were kept on task by a Learning Support Assistant or sent to function as spectators. Without the cooperative action of the pupils, the tournament would not have progressed, as mass buy-in by the whole class could not have been accommodated. A complicit 'in-common' understanding had been reached that 'tournament' meant some pupils got to play while others were permitted to sit down and be inactive. The third option was to be granted freedom to act without direct instruction, as long as overt deviance from looking-like they were 'practicing' tennis did not occur.

When playing rounders, this 'in-common' coordination of pupils' cooperative movements became a key function in the supply of looks-like-rounders action. In games-for-real opposing teams cooperate with each other by playing within the rules. However, the key function of their actions is to outwit another team and make it difficult for opponents to score or gain advantage. In order to give the impression of rounders being played for-real, a didactic contract between the teacher and the pupils existed to support a flow of play; players in possession of key skills demanded by the game (often the boys), adopted or were assigned key roles such as bowler, back-stop, first post and close fielders. Because most of the pupils had difficulty in hitting the ball, less skilful players adopted to stand elsewhere in the outfield, out of the way. This positioning of pupils enabled the game to function, however, in direct contrast to rounders-for-real; bowling in this game did not function to make it difficult for the batters. Instead, the ball was delivered to support a hit. This

cooperative action was adopted without hesitation, as a 'given' and was privileged through the directive actions of the teacher. Whilst a no-ball rule was taught by the teacher to particular bowlers, when a batter looked like they were bowled a difficult (but legal) delivery a no-ball was called by the teacher. In delivering an easy ball, the batters looked-like they were being skilful and the opportunity for fielders to become engaged in challenging the batters to run was increased, even if few balls were actually hit into the field.

Facilitating a flow of play through this coordination of cooperative action also extended into the outfield. Whilst pupils upheld the idea of trying to score and get players out by cheering 'rounder!' or shouting 'out!' pupils played with little urgency or assertiveness. No score was kept either officially by the teacher or unofficially by the pupils. Allied to this absence of tension, there were minimal if any 'put downs' within or between teams, for example, when balls were miss-fielded or when pupils ran each other out. Batters were made 'out' not through skilful or tactical play, but by their inability to hit a cooperatively bowled ball or by not paying attention to other batters running between the posts. In the format of this game, skilfulness and tactical understanding of the pupils was the vital missing ingredient to produce tension to create authentic competition. As a result, the function of their actions was to cooperatively follow rules that resulted in a pattern of looks-like-rounders play, which was acted out through the coordination of cooperative actions and untroubled by a commitment to a winning motive.

The distance of this looks-like-sport movement culture from gymnastics-for-real created the opportunity for Year 6 pupils to employ their understanding of coordinating cooperative actions to explore and play with gymnastic-like movements. This was facilitated by the open-end nature of the task to 'construct a sequence to show at the end of the lesson':

> A group of three girls Sasha, Nicky Beth practice moving in unison. The teacher approaches them 'What have you got so far? (inaudible)'. The girls sit in a line with their legs out in front. The teacher stands to attention and the girls straighten their legs and sit-up with straight backs . . . . the teacher is distracted by another pupil . . . . . Sasha and Nick perform a backwards forwards role respectively. The teacher's attention turns back to the 3 girls. Teacher: 'Sasha, when you do a backwards roll you need to (inaudible)'. She holds Sasha's hands and places them over her shoulders . . . Sasha has a go, still rolls over unevenly and finishes the move on her knees with her hands in the air like a gymnast. Nicky draws the teacher's attention and completes a backward roll and the teacher coaches her through the need to place her hands and push to make the roll 'look even'. The teacher leaves and the girls continue to add more actions by leapfrogging over each other. They do not return to doing backward rolls.

This task, particularly the requirement to perform at the end of the lesson, directed the pupils' actions towards upholding the idea of doing gymnastics-for-real. Their actions were facilitated by 'in-common' knowledge of the teachers' expectations for cooperation, independence and persistence at the task. The pupils re-actualised their knowledge of gymnastic actions and coordinated their actions cooperatively to create and show their sequence. The teacher's intervention was immediately to direct pupils towards using normative gymnastic actions, specifically achieving symmetry when rolling backwards. Sasha tried, did not quite succeed but maintained gymnastic normativity by finishing the move with her hands in the air. Nicky was more proficient and the teacher decided to coach her into making the roll less judo-like, and more acceptable to looks-like-gymnastics. This legitimated her intervention, after which the pupils returned to creating their sequence but did not chose use a backwards roll again. Meeting gymnastic norms so specifically was not of interest and the pupils preferred to play with adding and combining other actions and timings.

The class worked persistently in their groups to explore the making 'in-common' their understanding of a gymnastic sequence. Unless directed by some of the teacher's interventions, the pupils were unhindered by not having to reproduce gymnastics-for-real. They explored and experimented with their knowledge to incorporate pupils' differing strengths and weaknesses, body sizes and confidences. In doing so, the pupils were afforded the opportunity to negotiate the 'boarder lands' of moving for 'real' in gymnastics working enthusiastically with perseverance and commitment. This is an example where coordination of cooperative actions within a looks-like-sport movement culture can empower pupils to explore moving in different ways and with different purposes.

Playing roles

Cooperating within this movement culture also entailed adopting particular roles which functioned to maintain a show of looks-like-sport action. Whilst the teachers adopted a custodian role, pupils were expected to adopt and move between other roles; a 'side-line spectator', a 'looks-like active participant' or a 'co-custodian'. As custodian the teachers were the executive force behind the creation and direction of the looks-like-sport show. This was particularly evident thorough their adoption of officiating roles, verbal commentaries and direction of pupils' actions. To maintain the idea of tennis-for-real one teacher shouted out the scores in doubles matches, while pupils were expected to pass the ball to each other over a net without any discernable court lines. In looks-like-rounders, the same teacher moved between umpire, bowler, back-stop and first post in an attempt to ensure the patterns of play maintained momentum and flow. Her verbal commentary identified what pupils should do or could have done and she endeavoured to keep pupils as 'looks-like active participants' by shouting, for example, 'you need to pay attention!' when their drifting gaze led to a break down in the flow of play.

Sitting down and not being an active participant was permissible, however, this inactivity had to occur in acceptable locations. For example, Year 6 pupils were tasked with playing a whole class game of rounders:

> There is little action in the outfield and a group of three boys have sat down. They remain there for some time until the teacher standing on a post notices them. Teacher: 'Errr guys! No! This is a rounders match, whether you are involved or not you are in the field and are to remain standing. Up! Up! Up! Up! Right all of you move in there closer! Go!' The boys stand up and move forward to become close fielders. The next ball is bowled and a girl is stumped at 4th post. Pupils 'She's out! She's out. Chesney you are out!' Teacher: 'You are out Chesney put your bat away and sit down!' Chesney moves to the side to watch.

The rules of being out in rounders-for-real provided legitimacy for sitting down and becoming a 'side-line spectator'. These people are needed to counteract the looks-like-sport show of coordinated cooperative action in the looks-like-game rounders. With players being made 'out' in front of an audience, some sense of rounders for real was present. However, the actual game being played meant that being in the outfield negated the need to pay attention, as the chance that ball would come your way was very low indeed. Sitting down in the outfield reflected this knowledge and this action challenged the facade of playing rounders-for-real. The teacher acted to redirected the pupils to stand-up¸ and play the role of looks-like active participant. In doing so, she demonstrated her 'in-common' understanding of the pointlessness of standing in the outfield by instructing the pupils to move into the infield. In this area of the field, pupils could be more convincing in their role of looks-like active participant.

Pupils with the requisite skills to negotiate key positions in the movement culture were most likely to fulfil the role of co-custodian. This entailed being able to understand and complete the cooperative, reciprocal nature of the tasks set. In doing so, these pupils were able to support the efforts of the teacher to uphold the idea of looking-like sport. Such pupils became key players in supplying the flow of play in games of rounders and hitting passing shots to each other in looks-like-tennis. A Year 5 badminton lesson provided an example of how this role was taken a step further:

> The teacher stands between two groups of pupils one rallying over a net at one end of a badminton court, the other playing a 16 vs. 1 game of piggy-in-the-middle at the other end. She blows her whistle like the end of a football match and she instructs the two groups of pupils swap activities. As the mass piggy-in-the-middle game progresses, pupils struggle with initiating movement of the shuttle and there are many miss-hits. Jamie supports the actions of others to get the shuttle going . . . . 'Naomi do it like this' and he demonstrates a serving action . . . . .the pupils act cooperatively to re-establish a flow of play. Three pupils drift into the middle as a wayward shot is retrieved; Jamie negotiates who should go into the middle. 'Have you had a go Shabana or not? (the girl shakes her head) . . . . OK'. The girl has her turn in the middle, but she quickly intercepts the shuttle. Jamie immediately shouts to the group 'Who has not been in the middle?' He points and makes facial gestures to a girl who has been on the periphery most of the game, she steps forward and the game continues.

As a co-custodian of looks-like-badminton Jamie offers guidance to help pupils restart the game. He made 'in-common' the teacher's desire for the game to be played independently and cooperatively, so she could watch both groups work. By using his observations of the involvement of the looks-like active participants, he brokered their turn to go into the middle. The other pupils supported this action by permitting Jamie to co-ordinate play and in doing so also made 'in-common' their understanding of the need to be co-operative and independent. Jamie's guidance and sensitive management of play supports the other pupils' acceptance of his co-custodian role which mutually supports the teacher's desire for the game to run smoothly without her interjections.

Conclusions: a smorgasbord of looks-like-sports

Literature describing primary PE in the UK suggests a curricula landscape of multi-activities in which sport discourses are privileged over wider education aims of the subject (Griggs 2007, 2008, 2010). This practice has produced a 'sporting model' of delivery (Capel 2007, 494) which Kirk (2010) argues has created an enduring mode of pedagogical practice of PE-as-sport-techniques. The enduring and uniting feature of this practice is a repetitive learning of techniques associated within core curricula of sports dominated by traditional games, which are not reflective of pupils' needs or wider movement culture within local communities. For pupils and teachers, this pedagogical context is akin to eating from a smorgasbord of different sports dishes. Each dish is argued to be identified through the reproduction of techniques within rules and customs associated with a specific movement culture of sports-for-real. In contrast to PE-as-sport-techniques, the sampling of different sports within our study actually amounted to eating from a smorgasbord where the flavours of the dishes initially looked different, but according to our analysis actually tasted the same. Each dish was differentiated by the use of contrasting equipment, physical locations and named activities. However, what was realised was a diluted, repetitive and overriding flavour of something that looks-like-sport. Pupils were tasked with actions which functioned to produce a stage managed show of controlled activity aided by their compliance to a strict behaviour code. Pupils attempted to make highly cooperative tasks

and games work through their adoption and acceptance of different roles. When some pupils re-actualised their knowledge of actions from sport-for-real, this behaviour was considered and treated as deviant. Succeeding within this movement culture demanded an implicit understanding of the need to coordinate actions cooperatively with others.

The standout flavour within the movement culture involved gymnastics, where the removal of competition and provision of space for pupils to re-actualise their knowledge, created an interesting blend of pupil engagement, sustained physical activity, creativity, inclusion and cooperation. This may have been curtailed by a need to replicate movements acceptable to doing gymnastics-for-real and suggests that the practice of other forms of looks-like-sport may have the potential to elicit similar action.

It is argued that pupils' long-term engagement in PE and participation in movement culture into adulthood are dependent upon such action (see, e.g. Crum 1993; Green 2004). Research into long-term participation in physical activity evidences the importance of experiences of a wide variety of different movement cultures in childhood and adolescence (Engstro 2008). This empowers people to alter their involvement in different¨m forms of physical activity as their different purposes and motivations change through their life course (Green 2004; Engstro 2008). The monoculture of looks-like-sport in¨m this study presents a serious obstacle to the need for schools to provide a true smorgasbord of different movement cultures with distinct flavours that relate to wider movement cultures beyond the school gates. Continued attention upon actions-in-context-in-PE-settings has the potential to further our understanding of the creation, nature and reproduction of learning experiences. This may provide a valuable contribution to our exploration of the relations between these learning experiences and participation in movement cultures beyond compulsory schooling. This study creates further questions relating to how actions-in-context by pupils and teachers negotiate the complex mix of educational, sport and health discourses that constitute the movement culture within their school. This may be achieved by analysing relations between actions, educational content and pedagogy of the recorded PE lessons.

References

Alexander, R. 2001. Culture and Pedagogy: International Comparisons in Primary Education. Oxford: Blackwell.

Amade-Escot, C. 2006. "Student Learning within the Didactique Tradition." In The Handbook of Physical Education, edited by D. Kirk, D. Macdonald, and M. O'Sullivan, 347–365. London: Sage.

Banks, J. 1993. "The Canon Debate, Knowledge Construction and Multicultural Education." Educational Researcher 22 (5): 4–14.

Biesta, G. 1994. "Education as Practical Intersubjectivity: Towards a Critical-Pragmatic Understanding of Education." Educational Theory 44 (3): 299– 317.

Biesta, G., and N. Burbules. 2003. Pragmatism and Educational Research. Boulder, CO: Rowman and Littlefield.

Bryman, A. 2008. Social Research Methods. 3rd ed. Oxford: Oxford University Press.

Capel, S. 2007. "Moving Beyond Physical Education Subject Knowledge to Develop Knowledgeable Teachers of the Subject." Curriculum Journal 18 (4): 493–507.

Crum, B. 1992. Over de Versporting van de Samenleving. Haarlem: De Vrieseborch.

Crum, B. 1993. "Conventional Thought and Practice in Physical Education: Problems of Teaching and Implications for Change." Quest 45 (3): 339–356.

Crum, B. 1994. "Changes in Movement Culture: Challenges for Sport Pedagogy." Proceedings from the AISEP conference, vol. 2. Sport Leisure and Physical Education, Trends and Developments, 62–68. Berlin: AIESEP.

Dewey, J., and A. F. Bentley. [1949/1991]. “Knowing and the Known.” In The Later Works, edited by J. A. Boydston, 1925–1953, vol. 16. Carbondale, IL: Southern Illinois University Press.
Engstrom, L.-M. 2008. “Who is Physically Active? Cultural Capital and Sports Participation from¨ Adolescence to Middle Age: A 38-year Follow-Up Study.” Physical Education and Sport Pedagogy 13 (4): 319–343.
Green, K. 2004. “Physical Education and the ‘Couch Potato Society’: Part One.” Physical Education and Sport Pedagogy 9 (1): 73– 86.
Griggs, G. 2007. “Physical Education: Primary Matters, Secondary Importance.” Education 3–13 35 (1): 59 –69.
Griggs, G. 2008. “Outsiders Inside: The Use of Sports Coaches in Primary Schools in the West Midlands.” Physical Education Matters 3 (2): 33–36.
Griggs, G. 2010. “For Sale – Primary Physical Education. £20 per Hour or Nearest Offer.” Education 3–13 38 (1): 39– 46.
Griggs, G., and G. Ward. 2012. “Physical Education in the UK: Disconnections and Reconnections.” Curriculum Journal 23 (2): 207–229.
Hodkinson, P., G. Biesta, and D. James. 2007. “Understanding Learning Cultures.” Educational Review 59 (4): 415– 427.
Kirk, D. 1999. “Physical Culture, Physical Education and Relational Analysis.” Sport Education and Society 4 (1): 63 –73.
Kirk, D. 2010. Physical Education Futures. London: Routledge.
¨Klaar, S., and J. Ohman. 2012. “Action with Friction: A Transactional Approach to Toddlers’ Physical Meaning Making of Natural Phenomena and Processes in Preschool.” European Early Childhood Education Research Journal 20 (3): 439–454.
MacPhail, A., T. Gorely, D. Kirk, and G. Kinchin. 2008. “Exploring the Meaning of Fun in Physical Education through Sport Education.” Research Quarterly for Exercise and Sport 79 (13): 344– 356.
MacPhail, A., and G. Kinchin. 2004. “The Use of Drawings as an Evaluative Tool: Students’ Experiences of Sport Education.” Physical Education and Sport Pedagogy 9 (1): 87–108.
McEvilly, N., M. Verheul, and M. Atencio. 2013. “Physical Education at Preschools: The Meaning of ‘Physical Education’ to Practitioners at Three Preschool Settings in Scotland.” Physical Education and Sport Pedagogy 18 (6): 1–16, iFirst Article. http://dx.doi.org/10.1080/17408989.2013.798407
Mowling, C., S. Brock, and P. Hastie. 2006. “Fourth Grade Students’ Drawing Interpretations of a Sport Education Soccer Unit.” Journal of Teaching in Physical Education 25 (1): 9–35.
NCC (National Curriculum Council). 1992. Non Statutory Guidance for Physical Education. London: HMSO.
OFSTED (Office for Standards in Education). 2002. Physical Education in Primary Schools. London: TSO.
OFSTED (Office for Standards in Education). 2005. Physical Education in Primary Schools. London: TSO.
OFSTED (Office for Standards in Education). 2009. Physical Education in Primary Schools (2005–2008). London: TSO.
¨ hman, M., and Quennerstedt, M. 2012. “Observational Studies.” In Research Methods in PhysicalO Education and Youth Sports, edited by K. Armour and D. Macdonald, 189–203. London: Routledge.
Quennerstedt, M. 2013a. “Practical Epistemologies in Physical Education Practice.” Sport, Education and Society 18 (3): 311–333.
Quennerstedt, M. 2013b. “PE on YouTube – Investigating Participation in Physical Education Practice.” Physical Education & Sport Pedagogy 18 (1): 42–59.
¨Quennerstedt, M., C. Annerstedt, D. Barker, I. Karlefors, H. Larsson, K. Redelius, and M. Ohman. 2014. “What Did They Learn in School Today? A Method of Approach for Exploring Aspects of Learning in Physical Education.” European Physical Education Review 20 (2): 282–302. doi:10.1177/1356336X14524864
¨¨Quennerstedt, M., J. Ohman, and M. Ohman. 2011. “Investigating Learning in Physical Education –
A Transactional Approach.” Sport, Education and Society 16 (2): 159–177.
Robson, S. 2011. “Producing and Using Video Data in the Early Years: Ethical Questions and Practical Consequences in Research with Young Children.” Children and Society 25 (3): 179–189.

Rogoff, B. 1995. “Observing Sociocultural Activity on Three Planes: Participatory Appropriation, Guided Participation, and Apprenticeship.” In A. Sociocultural Studies of Mind, edited by J. Wertsch, P. Del Rio, and T. Alvarez, 139–164. Cambridge: Cambridge University Press.
˙Wickman, P., and L. Ostman. 2002. “Learning as Discourse Change: A Sociocultural Mechanism.” Science Education 86 (5): 601–623.

Appendix 6.

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Knowing in primary physical education in the UK: negotiating movement culture

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This paper aims to understand how pupils and teachers actions-in-context constitute being-a-pupil and being-a-teacher within a primary school physical education (PE) movement culture. Dewey and Bentley's theory of transaction, which views organism-in-environment-as-a-whole, enables the researcher to explore how actions-in-ongoing activities constitute and negotiate PE movement culture. Video footage from seven primary school PE lessons from a school in the West Midlands in the UK was analysed by focusing upon the ends-in-view of actions as they appeared through the educational content (what) and pedagogy (how) of the recorded PE experiences. Findings indicated that the movement culture within the school was a monoculture of looks-like-sport characterised by the privileging of the functional coordination of cooperative action. Three themes of pupils' and teachers' negotiation of the movement culture emerged U-turning, Knowing the game and Moving into and out of games. This movement culture required teachers to ensure pupils looked busy and reproduced cooperative looks-like-sport actions. In fulfilling this role, they struggled to negotiate between their knowledge of sport-for-real and directing pupils towards educational ends-in-view within games activities. Simply being good at sports was not a prerequisite for pupils' success in this movement culture. In order to re-actualise their knowledge of sport, pupils were required to negotiate the teacher's 'how' and 'what' by exploring what constituted cooperative actions within the spatial and social dimensions of the activities they were set. These findings suggest that if PE is to be more than just the reproduction of codified sport, careful adjustment and consideration of ends-in-view is of great importance. Without regard for the latter there is potential to create significant complexity for both teachers and pupils beyond that required by learning and performing sport.

Keywords: Primary school; Physical education; Sport; Movement culture; Transaction

Introduction

More than 90 years ago Dewey (1916) argued that learning in school requires pupils to understand not only the subject material they are being tasked to learn, but also their 'teacher's requirements' and the 'conventions and authority' of the institutional environment within which they are studying (p. 148). Using different theoretical perspectives, contemporary researchers have continued to explore this phenomenon (cf. Benjamin, Nind, Hall, Collins, & Sheehy, 2003; Pollard, 1982; Renold, 2001).

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Using Dewey's concept of experience, Östman (2010) argues that negotiating these different cultural dimensions of schooling does not necessarily develop through explicit learning, but via a process of socialisation within the normativity of teaching and learning. From this perspective, pupil's experiences in lessons can be understood in relation to educational content; the intentional and unintentional consequences of teacher's and pupil's actions (what), and the pedagogy; the tridimensional interaction of pupil, subject matter and educational activity (how; cf. Quay & Stolz, 2014; Quennerstedt, Öhman, & Öhman, 2011).

For Crum (1993) the 'what' and 'how' of physical education (PE) experiences are integral cultural parts of a consistently changing landscape of 'movement culture'. He argues it is within this landscape that 'people realise and experience important values, such as recreation, health, adventure, excitement, togetherness, performance, and self-realisation' (p. 341). People act with differing purposes and motivations to achieve this realisation, as a result different types of movement cultures can be created (Crum, 1992). This cultural mutuality between sport and PE is similarly emphasised by Banks (1993) who draws our attention to the mediation of PE experiences through pupils' own personal experiences of sport and physical activity. He argues these are developed via their participation in movement cultures both within and beyond the school gates.

We would argue that this understanding of PE as movement cultures resides within a transactional theory of knowledge (cf. Garrison, 2001), in which people and their surroundings are mutually and simultaneously constituted in terms of what Dewey calls 'organism-in-environment-as-a-whole' (Dewey & Bentley, 1949/1991, p. 103). People do not 'interact' with their locality but are continually in 'transaction' with a multidimensional world; experience thus becomes inseparable from situation because; 'Experiences appear when people act in a situation and the situation emerges when people re-actualise their experiences in action' (Östman, 2010, p. 81). One way to approach people's actions with different purposes (Crum, 1992) is through Dewey's concept of ends-in view (Garrison, 2001; Quennerstedt, 2013b). For Dewey (1938/1991) ends-in-view direct and redirect these actions and support participants to act intelligibly through a process of inquiry. Ends-in-view shape events by guiding this inquiry as a means to its own realisation, which is to secure and maintain functional coordination or stability with the environment (cf. Garrison, 2001). From this perspective PE movement cultures are constituted through transactions between teachers, pupils and their locality or actions-in-ongoing events (cf. Quennerstedt, 2013b). In this view educational events cannot be isolated into separate parts, but are required to be seen as aspects of the individual, social and cultural dimensions of a PE movement culture, in which one aspect cannot be discussed without relationships to the others (cf. Rogoff, 1995). In PE movement cultures, learning is practical and embodied and therefore action becomes the point of departure to understand how they are constituted through ends-in-view (cf. Quennerstedt, 2013a).

As with research within secondary school PE (cf. Rovegno & Dolly, 2006), exploration of PE movement cultures within primary schools has often focused on

the issues and content of teaching (cf. Garrett & Wrench, 2008; Jess & Collins, 2003). Some studies of PE have developed an understanding of pupils' perceptions of their PE experiences (cf. Mowling, Brock, & Hastie, 2006). However, most studies have focused upon the perspectives of non-specialists teachers (cf. Elliot, Atencio, Campbell, & Jess, 2013) or sport coaches tasked with delivering PE lessons (cf. Smith, 2013). This research reveals that the 'education' of primary PE in the UK is subverted for narrow performance outcomes as it is shaped by competing sport, health and education discourses (cf. Ward, 2014). This literature describes a dominant PE movement culture which Kirk (2010) terms a 'PE as Sport Techniques'. From a national historical perspective he argues that this enduring idea of PE has been created through the historical practice of teaching techniques and skills mainly in isolation from their movement contexts. What is missing is an understanding of the extent to which this idea of PE is constituted in practice by teachers' and pupils' actions-in-ongoing-activities. By building on previous socio-cultural studies of learning in PE (cf. MacPhail, Gorely, Kirk, & Kinchin, 2008; Quennerstedt et al., 2014; Ward & Quennerstedt, 2014), this paper explores PE movement cultures from a transactional perspective, in particular, how ends-in-view shape actions-in-ongoing events within the PE lessons of a UK primary school. The aim of this study is to explore how the ends-in-view of the participants shape the educational content (what) and pedagogy (how) of their lessons. In doing so we can say something about how pupils and teachers negotiate the constituted PE movement cultures.

Ends-in-view as units of analysis

Dewey and Bentley's (1949/1991) transactional perspective of knowledge used in this paper dissolves the dualism between internal and external, individual and environment (Biesta & Burbules, 2003). This is achieved by understanding the environment as a mutually constituted location of 'enmeshed' (p. 244) physical and cultural conditions. It is through trans(actions) that the individual and their physical and cultural surroundings become united and through which learning occurs (Quennerstedt et al., 2011). Linehan and McCarthy's (2001) readings of situated perspectives on learning similarly suggest that as pupils act within a class they both appropriate and reconstruct the context within which they are participating. As a result they argue that 'individual' and 'community' are mutual and evolve from their relations, which include the sociocultural and personal contexts from which they emerge.

Dewey (1916) argues that 'knowing is literally something we do' (p. 367) and that forms of knowledge or objects become integral to a process of inquiry initiated by a motive to resolve a problem in order to 'secure and sustain functional co-ordination' (Garrison, 2001, p. 278). This inquiry is initiated from a requirement to resolve a physical need, emotional disharmony or cognitive doubt (Dewey, 1938/1991). To resolve this tension, action becomes directed towards different directions and different ends or 'ends-in-view' (Dewey, 1934/1980, p. 10). According to Garrison

(2001) ends-in-view are not fixed but are adjusted at every stage of the process of inquiry in order to create a 'newly assured, smoothly fitting … stabilized situation' (Boisvert, 1998, p. 39). Even play activities, which are often regarded as being free of particular 'ends', are subject to ends-in-view. Whilst these may not be represented as external objectives constituted by the social or physical environment, play is governed by the self-regulation of action. Participants are considered free and thus playful because they are able to change their ends-in-view if fulfilment is not being achieved (Garrison, 2001). Garrison (2001) argues this idea of playfulness in the process of inquiry adopts a creative 'non-teleological interpretation of intentionality' (Joas, 1996 cited by Garrison, 2001; p. 280) in which teleological goals form subfunctions of functional coordination. Ends-in-view allow intelligent action by acting as plans which direct and redirect action to shape the course of events by allowing us to 'see where we are going' (Garrison, 2001; p. 293). When experiences within events are confirmed and not overturned, inquiry is no longer necessary and the situation becomes stable (Garrison, 2001). From this theoretical perspective, knowledge is not only something that is certain and truthful, but also contextual and temporal, which emerges from a stable outcome of inquiry.

The integral role of ends-in-view in the achievement of functional coordination makes them a valuable unit of analysis of activity (Garrison, 2001). PE movement cultures are then constituted through ends-in-view represented within the educational content; the intentional and unintentional consequences of teacher's and pupil's actions (what), and the pedagogy; the tridimensional interaction of pupil, subject matter and educational activity (how; Quay & Stolz, 2014). By exploring these ends-in-view in relation to the achievement of functional coordination, we can say something about how teachers and pupils negotiate different situations in PE practice in order to achieve this stability within the constituted movement culture.

Methods

Research design

To capture what Dewey calls actions-in-ongoing-activities within the everyday context of primary school PE lessons using the insights from a transactional perspective, an observational case study was conducted (Öhman & Quennerstedt, 2012). Video-recordings were made of an opportunistic sample (Bryman, 2008) of seven Year 5 and 6 PE lessons within a state maintained urban primary school. This larger than average school of approximately 500 pupils aged 3–11 was situated in a large town in the West Midlands.

Ethical considerations

Careful consideration was made to the process of gathering the visual data before ethical approval of the study was granted by a University Ethics Committee. When seeking consent from all stake holders, particularly pupils, the aim was to be sensitive

to the impact of power relations on decisions to agree to be involved (Robson, 2011). These issues were minimised through the provision of clear and concise information, opportunities for pupils and parents to discuss the study and emphasis on the aim that it would present no change in the ongoing PE lessons taught. Video cameras and iPads were also filtered into and then out of PE lessons to support the children's informed consent for the study, by providing opportunities for them to view and reflect upon seeing visual representations of themselves (Robson, 2011). This strategy was adopted until the researcher and camera became less obvious and an accepted part of the everyday, ongoing practices within the PE lessons (Robson, 2011). All footages were deleted immediately after the lessons. Lessons included in the study were filmed using a mini-digital camera held by the researcher. Only two children declined to be involved in the study and great attention was paid to ensuring they were not deliberately filmed or featured in any background of the footage. Whilst posing an additional challenge to the filming process this was necessary to comply with the children's wishes. Instances where these children unintentionally appeared in the films were not used in the study.

Data analysis

Despite the collection of seven-and-a-half hours of film, a complete and comprehensive sociocultural account of how students and teachers negotiate movement cultures within the school was very difficult if not impossible to achieve. Video-recordings can only produce selective data and obtaining personal distance during the interpretation of data is a methodological impossibility (Öhman & Quennerstedt, 2012). In the analysis we focused on the ends-in-view of the event, i.e. actions that allow participants to act intelligibly in relation to both the content (what) and the pedagogy (how) of the event (see e.g. Quennerstedt, 2013a, 2013b). To achieve this, the functions of different actions in the observed situation, lead the analysis. In order to best understand the functions and directions of actions of both teachers and pupils, each of the seven lessons was first observed in their entirety. Initial field notes were developed which recorded particular events such as those where particular pupils or groups of pupils for example, acted against the main flow of direction of actions. These events were then revisited and specific interactions, content and sequencing of actions noted. The labelling of the latter then directed further in-depth analysis which used detailed transcripts of embodied and spoken actions, including the locality and involvement of artefacts (Öhman & Quennerstedt, 2012). Each group of 'event' transcripts was then analysed individually and collectively examining the relations between the directions of actions and the educational content (what) and pedagogy (how) of the event. This process was first completed separately by the researchers, followed by analysis of both sets of findings. Differences in the latter were exposed to further analysis and examples of corroborated findings were selected as examples of the emergent themes.

Findings

Despite the differences in adults leading and pupils participating in the observed lessons consistent relations in the directions of actions existed which constituted a singular movement culture. Unlike 'PE as Sport Techniques', identified by Kirk (2010), a hybrid form of movement culture was created. Rather than re-enacting competitive sport, the teachers directed pupil's actions using stage-managed games and cooperative practices in which tension was controlled so as to produce busy looking, but controlled activity. These ends-in-view guided the functional coordination of action to create a mono-movement culture of looks-like-sport (cf. Ward & Quennerstedt, 2014). This movement culture was not static or predictable and as action unfolded and both the teachers and pupils were engaged in consistently negotiating their experiences in order to achieve stability in the functional coordination of their actions. Following further data analysis three themes of negotiating the movement culture emerged: (1) U-turning, (2) Knowing the game and (3) Playing into and out of games.

U-turning

As the broader consequences of the direction of pupils' actions became visually explicit to the teachers, it was evident that the teachers' ends-in-view often changed direction. These changes often constituted a U-turn of preceding ends-in-view and were examples of the teachers' own negotiation of the looks-like-sport movement culture. These points of redirection arose primarily when the pupils' actions contravened the everybody-looking-busy prerequisite of the movement culture. Whilst small proportions of pupils spectating were tolerated as they provided legitimacy to the sport-like action, it was clear that larger groups of seated audiences could not be condoned. The resultant changes in direction of pupils' actions were reflective of their teachers' struggles with games activities. These issues were founded in ends-in-view directed towards sport-like-action, yet constrained by an obligation to direct pupils to functionally coordinate cooperative actions. By changing the 'how', teachers tried to alter the 'what' of experience, moving along a line of competitive exclusory and inclusive cooperative outcomes.

For example, after splitting a class of 28 Year 6 pupils into two teams, the teacher explained the rules of a version of rounders. As a long line of batters waited their turn, they entertained themselves by playing with their bats or chatting. The teacher stood in the middle of the pitch, orchestrating the game by instructing the fielders on where to throw the ball and the batters on when to run:

> Leon who is on first post misses a catch to get a batter out, Teacher: 'right lets change the field, Mel you go on first and Leon come into the middle … Catch the ball Daniel! Yeahh! [claps]' The batter is caught out by the bowler, but it goes unnoticed by the players. Various innings are played and the teacher calls the pupils to change over their batting and fielding roles. No scores are kept. Teacher: 'Right has everyone had three goes?' David: 'He had four!' Teacher: 'Ahhh do not argue

> with me or you will not even get a go next time! This time when we are playing when you are out you're out! You've got 15 minutes each team!'

Teachers particularly struggled with generating competition between pupils and in this game of rounders for example, notions of competitive sport were upheld by the teacher calling 'outs' and the pupils shouting 'Rounder! Rounder!'. However, in order to ensure a flow of play and maintain the everybody-looking-busy condition of the movement culture, the teacher was required to create quasi-competitive action between teams rather than privileging pupils to outwit their opponents at every opportunity. This end-in-view was manufactured by stage managing functionally cooperative actions between teams, characterised by the absence of scoring, moving of players and the creation of fragile low-level tension between players in the field. When pupils' drifting attention threatened this end-in-view the teacher was required to consistently negotiate and redirect players' attention to their role in maintaining the flow of coordinated play.

Teachers' experiences of directing action away from competition towards more cooperative ends-in-view were less problematic as they were more aligned with the looks-like-sport movement culture. For example, the original end-in-view for a Year 6 tennis lesson was to use controlled rallying shots to play a doubles game. The provision of one solitary net placed a sole game of doubles for four pupils at the centre of this lesson, whilst the remainder of the class were limited to practicing or adopting a spectator role. As the lesson progressed, a critical mass of pupils shifted from practising to sitting down in the vicinity of the game. This direction of action jarred against the everybody-looking-busy movement culture:

> A doubles game builds into a 6 vs 6 as sitting pupils ask if they can join in. Teacher: '30 love! I tell you what keep the ball going. That's it.' The teacher joins in and she encourages the pupils to have as many hits as needed to send it over to the other side of the court. The pupils comply with enthusiasm.

By discarding the doubles game and allowing sitting pupils to join in a mass rally game the teacher redirected action by 180°. The ease in the creation and success of this new direction of action was a result of its dovetail fit with the functional coordination of cooperative actions that lay at the heart of the looks-like-sport movement culture. These illustrations of teachers' struggles with re-actualising sport-for-real within the movement culture were matched by the pupils' own negotiation of the 'how' and 'what' of their PE experiences. Whilst some faced significant difficulties with re-actualising their knowledge of sport-for-real others were more successful.

Knowing the game

Re-actualising knowledge of sport-for-real within this looks-like-sport movement culture required careful negotiation, grounded in knowing the rules of engagement of the tasks set. This did not focus upon the reproduction of sport-for-real, but the need to explore the boundaries of the movement culture in order to discover alternative

directions of action to which led to stability in the functional coordination of their actions. In tennis, rather than hitting recognisable shots with the aim of making them difficult to return or to 'whack it … as anyone can do that!' (Teacher), Year 6 pupils were tasked with hitting cooperative passes to each other in pairs:

> Three pairs of girls are outside a fenced area on the school playground and a Learning Support Assistant (LSA) is positioned in the locality. The girls rally with varying success and at one point partners are running frantically across the playground to retrieve balls. LSA; 'right all of you come in'. Various girls reply: 'What me?. … No? … All of us?' LSA: 'Yes, all of you!' Jemma: 'Why are we going to get told off?' LSA: 'No, right, stand that far away from your partner [she holds up arms up and hands apart] … your ball should not be going down there!' Jemma: 'She [points to her partner Kayleigh] hits it diagonal, she hits it like this!' Jemma demonstrates with her racket. LSA: 'Look give the racket to me'. She reaches to take Kayleigh's racket and explains how to hit it showing an underarm hit with a restricted swing. Jemma: 'But professional players don't bend down and do this!' She stands with her feet apart and swings her racket between them as if hitting a ball. LSA: 'But you are not a professional!' She repeats the instruction to stand close and 'make sure the ball does not go everywhere!' Jemma: 'But I'm a professional … look!' She does reproduces a double handed forehand shot with a big back swing and follow without the ball. Jemma: 'But Miss imagine if you were in a tennis game and did that'. She demonstrates little hits with her racket while the LSA walks off and organises the other pairs.

In this example the LSA fulfilled her role as custodian of the teacher's ends-in-view by reinforcing the replication of the looks-like-sport action. The pupils, however, struggled with the 'how' and 'what' of hitting reciprocally and more significantly for Jemma, the resultant experience actually had little meaning. This was made clear in her open critique of the authenticity of the 'what' of the task through her re-actualisation of knowledge of the sport of tennis. However, negotiation of her difficulties with her experience was cut abruptly short by the LSA moving away. Jemma's exploration and direct challenging of the teacher's ends-in-view at the boundaries of the movement culture lead her with nowhere to go.

In contrast in Jemma's direct challenge to the teacher's ends-in-view, a small number of pupils chose to negotiate difficulties with the task and change their experience by approaching the teacher directly. This direction of action however, placed both the pupils' partnership and their ability to learn under the direct judication of the teacher. Such action thus heightened the requirement to either succeed at the task or to demonstrate a concerted effort to meet the teacher's ends-in-view. When both pupils and teacher were met with failure the teacher was required to create a different experience which still met her ends-in-view but was achievable for the pupils concerned. The solution offered negated the need for functionally coordinated action in pairs, by directing pupils to self-tip a ball on their racket. Less forthcoming pairs within the class suffering difficulties with the task or those paired with uncooperative 'whackers' of the ball, unofficially pounced upon this legitimate solitary alternative to create a new independent looks-like-tennis experience.

A different direction in altering their looks-like-tennis experience was also initiated within a very similar cooperative rallying experience in a Year 5 tennis lesson. However, in this case changes to both the 'what' and 'how' of the task crashed into a similar barrier as Jemma:

> Teacher: 'OK. … what I would like you to do is just practice by passing the ball to each other without a net OK? …' Jordan walks away from the group and bounces the ball on his racket. Shane does the same then hits two forehand shots in a row using the side netting of the tennis court. Jordan copies him. Teacher: '… If you carry on boys there will be no PE or ICT this afternoon! You will [be removed from the lesson]'.

Shane and Jordan's ends-in-view were made very explicit through their choice to hit for real against the fence. This action was solitary and uncooperative and involved a less defined and more uncontrollable product. It clashed completely with the 'what' and 'how' of the teacher's ends-in-view and created consequences for both boys beyond their immediate lesson. Clashing with the teacher's ends-in-view was overlooked, such as taking unofficial temporary breaks from rallying, as long as it did not interfere with the direction of actions of the majority of the class. In Shane's and Jordan's case they made the big mistake of miss-timing and miss-locating a radical alteration of the intended experience, directly in the locality of the teacher and immediately after the task instruction. Their direct challenge to the 'how' and 'what' of the teacher's ends-in-view created severe consequences of threats of being removed from their PE lesson and potential exclusion from other curricula experiences. This was an example of the high level of conformity to cooperative activity expected within the movement culture. In order for pupils to re-actualise their knowledge of the sports being acted out, negotiating the 'how' and 'what' of the experiences required more subtle and intelligent alteration to the teacher's ends-in-view. This lay in the subtle exploration of the social and physical boundaries of the movement culture.

For some Year 6 pupils, understanding the spatial margins of the locality enabled them to create a different experience by reconciling a desire to hit for real in tennis within the cooperative passing task. A key facilitator of this action was the freedom granted by the teacher to use space outside of a fenced area. This was accompanied by the pupils' understanding that greater space between them provided sufficient opportunity to hit for real, whilst allowing errors in their accuracy. By positioning themselves outside of the fenced area, on the social periphery of the class, these pupils ensured they did not interfere with others. Working cooperatively and being further away from the teacher's gaze also lowered the risk of any potential clash of their change in the 'what' with the teacher's desire for pupils not to 'whack' the ball.

Similar insightful negotiation of the 'how' of their experience was also achieved by a pair of Year 6 boys who chose to re-actualise their knowledge of the sport of tennis, this time in the form of playing a game:

> In the vicinity of the teacher, who is rallying with a boy, two other boys appear to be using two lines about 5m apart as side-lines to their court. There is no actual net.

> Daniel shouts out the score ‘30–30’ as his partner retrieves the ball. Jay, his partner retakes his position and does a self-fed bounce forehand hit to serve. Daniel returns, Jay replies and then Daniel misses and shouts ‘40–30’. He does the same type of serve back. Jay returns, Daniel hits and Jay misses. Daniel waves his fist in Andy Murray style and circles it shouting ‘40–40’ … Bentley (excused PE) arrives who has been watching from outside while retrieving balls hit over the fence. He gradually becomes an umpire, however, the scores and order of play are still negotiated between the three boys.

Rather than hit for real, Daniel and Jay modified the cooperative passing task, using it as the basis to play a competitive game of singles. Occupying an acceptable space for the paired task within the fenced area, the boys utilised the presence of convenient side lines and the arrival of a willing spectator to authenticate their game. They maintained the passing action to both serve and return the ball and functionally coordinate their actions within their game. Due to the absence of base-lines and a net, this flow of play was interspersed by cooperative negotiations, particularly with Bentley, to decide the score. In this way, a game was created and indirectly approved by the teacher. In this negotiation everyone was satisfied; the teacher’s ends-in-view were fulfilled and all three boys were able to re-actualise their knowledge of tennis.

Understanding the consequences of altering the ‘how’ of experience was central to the re-actualisation of knowledge of sport within this movement culture. Jemma’s attempt to openly negotiate the ‘what’ of an experience ended in failure, particularly when it was directed at the custodian of the movement culture who was committed to ensuring the direct replication of the teacher’s ends-in-view. Alternatively, seeking direct assistance from the teacher placed pressure on a partnership by admitting failure and by placing both parties under the direct judgement of the teacher. Such action required pupils to be committed to realising the teacher’s ends-in-view by committing to learning under their immediate supervision. A more subtle route was to change the ‘how’ by copying a new practice offered to those who sought the teacher’s assistance and create a different independent looks-like-tennis experience. Pupils who chose to radically challenge the ‘what’ and ‘how’ of their experiences such as Jordan and Shane, risked direct confrontation with the teachers’ ends-in-view. Successful forms of this line of negotiation required pupils to explore the boundaries of the movement culture. They were required to know how to avoid drawing unnecessary attention to their actions and to also understand how to adjust the spatial dimensions of the task. By applying this knowledge, these pupils perceptively altered their experience and were able to re-actualise their knowledge of the sport of tennis but remain aligned with the teacher’s ends-in-view.

Playing into and out of games

Negotiating the need to functionally coordinate actions within tasks was also reflected in pupils’ movements between different roles within large team games. This was achieved by changing the ‘what’ of their experience whilst contributing to the teacher’s end-in-view; maintaining a supply of cooperative play in functionally

managed action between teams. In rounders, for example, despite prescriptive management of the 'how' by the teacher which restricted the pupils' negotiating options, there existed space to regulating the 'what' of their experience. Within these looks-like-rounders games the 'how' was regulated through the direction of pupils' actions by the teacher, physical structure of the pitch and the pupils' skill levels. Apart from the key bowling, backstop and first post roles, pupils were given free rein to find a position to field which provided these opportunities to negotiate different experiences:

> A group of three girls have chosen to position themselves between second and third posts, one of them has moved from fourth post and choses to sit down. One of the group, Shannon, approaches Crystal who is on second post. They exchange brief words (inaudible), Shannon puts her hands over her face which is mirrored by Crystal who adopts a body posture half facing Shannon and half facing play. Shannon attempts to drag Crystal's attention from the game and her duties, despite this she keeps her main focus on the game. Shannon gives up and joins the other two girls whom are now sitting on the floor. The ball has yet to go past the side of a rectangle [rounders pitches are comprised of 4 posts] between 2nd and 3rd post. The girls sit in this space and watch play as it is directed by the teacher who is positioned by the bowler … There is an exciting moment in the game and Amy joins in the shouting … Amy draws attention of teacher 'What time is it miss?' On looking at the girls the teacher tells them to stand-up and approaches them. Teacher: 'Amy go on a post!' Amy: 'Noooo! Don't wanner do that!' Amy is encouraged to go on third post, the old third post comes off willingly. Shannon is sent forward into the rectangle and her actions become more animated, she fields a ball and receives praise from the teacher. The teacher positions herself next to Amy, and both girls remain standing for the remainder of the innings.

Crystal subtlety negotiated between her friendship ties with Shannon and her end-in-view to adopt a defined functional role within the game. Amy and Shannon demonstrate understanding of the physical limitations of the game; the inability of nearly all the pupils to hit, created a dead zone of space in the outfield between 2nd and 3rd posts. They utilised this knowledge to create a spectating role, however, Amy then enlisted the teacher to broker a new role for her in the game. The teacher obliged as they were blatantly contravening her end-in-view for everyone to be looking-like they were engaged within the game. Her verbal directions of Shannon re-engage her in a new active fielder role and her continual physical presence maintained Amy's looks-like-involvement as she remained standing. As the repetition of innings were played out, pupils rotated their positioning within the field, creating a flow of negotiations between acting as unofficial spectators in the outfield, adopting more active fielder roles in the infield or adopting more a functionally defined role by standing on a post, being the bowler or backstop.

In contrast to this tight control of the 'how' in games, a teacher's ends-in-view in a gymnastics lesson guided pupils towards more open-ended functionally coordinated action by relinquishing restrictions over both the 'how' and 'what'. This created space for pupils to experiment in their re-actualisation of knowledge and openly negotiate within small groups to explore this broader end-in-view. This greater

freedom to negotiate the boundaries of the movement culture created a very different experience of looks-like-sport. For example, Year 6 pupils were tasked by the teacher in gymnastics to ‘make-up a sequence to show to the class at the end of the lesson’:

> A group of 5 boys work to create their sequence. Their actions focus ensuring that everyone has a part to play. They combine forward and backward rolls and those who cannot do this hold a shape still. Bodies are chosen or volunteered to be used as obstacles to go over and under. They choose actions they can perform to move over a boy rolling like a log down the mats and take it in turns to lead on ideas and stop to talk through possible combinations of movements. The boys collectively ensure that they get to show what they can do; one boy balances on his head and hands while another supports him which is executed as the other three roll and jump. This continues for 30 minutes without interjection from any adult. The pupils are then called together and present their sequences to the class.

In this example the teacher referenced the sport of gymnastics in her ends-in-view, through her attempt to redirect pupils’ actions towards gymnastic aesthetic norms and the need to perform a sequence in front of others. The freedom to solve the task clearly demanded similar levels of understanding needed throughout the movement culture. Pupils were still required to be socially skilled and understand the need to functionally coordinate cooperative actions. In this case it appeared that these ends-in-view of the movement culture enabled the pupils to work cohesively and inclusively. This facilitated their negotiations to re-actualise their ideas of moving cooperatively with others. Whilst what they produced did not look like the sport of gymnastics (despite the teacher’s efforts to redirect some pupils to do so) the processes in which they were engaged were reflective of high socially skilled action, facilitated by the teacher’s broader ends-in-view.

Conclusions

In exploring the teachers’ negotiation of a looks-like-sport movement culture (cf. Ward & Quennerstedt, 2014) it was evident that they struggled to balance recreating sport-for-real and directing pupils towards educational ends-in-view. The latter privileged the reproduction of cooperative busy looking activity which created a looks-like-sport movement culture. These ends-in-view posed particular challenges for the teachers to balance the functional need for players to beat opponents with inclusive and cooperative ends-in-view. Negotiating this conflict resulted in the teachers redirecting their ends-in-view to ensure pupils were guided away from generating winners and losers, towards regaining a constant flow of functionally coordinated cooperative action. In order to re-actualise their knowledge of sports within these ends-in-view, pupils were required to carefully negotiate the social, spatial and physical boundaries of the movement culture. Simply being good at sports was not a prerequisite for success in this movement culture. Presenting a direct challenge to the ‘how’ and ‘what’ of the experience did not result in any alteration of the teachers’ ends-in-view. This course of action contravened the teachers’ expectation of explicit conformity to the reproduction of cooperative

actions. Pupils who chose to do this overtly were considered deviant and faced the threat of being sanctioned. More successful alteration of the teacher's 'how' and 'what' required pupils to explore what constituted cooperative actions within the spatial and social dimensions of the activities they were set. This demanded fitting their ends-in-view within the teacher's by exploring what was acceptable and how they could re-actualise their knowledge of sport techniques within cooperatively directed action.

These findings suggest that if PE is to be more than just the reproduction of codified sport, careful adjustment and consideration of ends-in-view is of great importance. Without regard for the latter there is potential to create significant complexity for both teachers and pupils beyond learning and performing sport techniques. The example in gymnastics of greater freedom for pupils to demonstrate what they know and combine this with the ideas of their peers, highlights the potential of this aspect of the movement culture to lead to the achievement of educational outcomes within a looks-like-sport movement culture. Transactional studies such as this enable researchers and teachers to understand the relations between their ends-in-view, the 'how' and 'what' of their lessons and their desired educational outcomes. Particularly how these relations constitute the PE movement culture within their lessons and school, and also how this shapes their and the pupils' actions. At a more sophisticated level this type of approach has the potential to become a pedagogical tool to support teachers in encouraging pupils to evaluate and reflect upon the implications of ends-in-view of activities upon their experiences. This process would support Crum's (1993) argument for PE to develop critical consumers of movement cultures.

The emphasis on competitive games contained within the latest revision of the National Curriculum for PE (Department for Education, 2013), may pose a particular hurdle within this looks-like-sport movement culture for both pupils and teachers. This will continue to apply pressure on the need to balance working towards cooperative busy looking ends-in-view, with the re-actualisation of knowledge of competitive sports outside of the school gates. Utilising pedagogical models to deliver PE curricula and help navigate the difficult terrain created by competition, inclusion and cooperation may be a way forward (Pope, 2011). However, this solution is out of reach to the majority of non-specialist teachers, particularly when set in the context of limited teacher training and continuous professional development in addition to low self-confidence to deliver PE (DeCorby, Halas, Dixon, Wintrup, & Janzen, 2005; Harris, Cale, & Musson, 2012; Morgan & Bourke 2008; 2008). These conditions in addition to the recent £150 million continuation of the Pupil Premium for PE [Her Majesty's (HM) Treasury, 2013] will continue to play their part in remodelling movement culture within primary schools. The growing subcontracting of sports coaches and support staff to deliver PE (Blair & Capel, 2011; Griggs, 2010; Smith, 2013) will remould the challenges presented to pupils and coaches alike. PE experiences for both will become a melting pot of specialist and non-specialist knowledge of sports and a diversity of pupil experiences and motivations. This suggests the value of continued transactional analysis to support

those involved to understand the constituted movement cultures created and the implications they pose for learning.

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References

Banks, J. (1993). The canon debate, knowledge construction and multicultural education. Educational Researcher, 22(5), 4–14. doi:10.3102/0013189X022005004

Benjamin, S., Nind, M., Hall, K., Collins, J., & Sheehy, K. (2003). Moments of inclusion and exclusion: Pupils negotiating classroom contexts. British Journal of Sociology of Education, 24, 547–558. doi:10.1080/0142569032000127125

Biesta, G., & Burbules, N. (2003). Pragmatism and educational research. Boulder, CO: Rowman & Littlefield.

Blair, R., & Capel, S. (2011). Primary physical education, coaches and continuing professional development. Sport, Education and Society, 16, 485–505. doi:10.1080/13573322.2011.589645

Boisvert, R. (1998). John Dewey: Rethinking our time. New York: State University of New York Press.

Bryman, A. (2008). Social research methods (3rd ed.). Oxford: Oxford University Press.

Crum, B. (1992). Over de Versporting van de Samenleving [Sport in society]. Haarlem: De Vrieseborch.

Crum, B. J. (1993). Conventional thought and practice in physical education: Problems of teaching and implications for change. Quest, 45, 339–356. doi:10.1080/00336297.1993.10484092

DeCorby, K., Halas, J., Dixon, S., Wintrup, L., & Janzen, H. (2005). Classroom teachers and the challenges of delivering quality physical education. The Journal of Educational Research, 98, 208–221. doi:10.3200/JOER.98.4.208-221

Department for Education. (2013). Primary school PE and sport funding. Retrieved July 10, 2013, from http://www.education.gov.uk/schools/adminandfinance/financialmanagement/b00222858/primary-school-sport-funding

Dewey, J. (1916). Democracy and education. New York, NY: The Free Press.

Dewey, J. (1934/1980). Art as experience. New York, NY: Perigee Books.

Dewey, J. (1938/1991). Logic: The theory of enquiry. In J. A. Boydston (Ed.), John Dewey: The later works (vol. 12, pp. 2–529). Carbondale: South Illinois University Press.

Dewey, J., & Bentley, A. F. (1949/1991). Knowing and the known. In J. A. Boydston (Ed.), The later works, 1925–1953 (pp. 1–275). Carbondale: South Illinois University Press.

Elliot, D. L., Atencio, M., Campbell, T., & Jess, M. (2013). From physical education experiences to physical education teaching practices? Insights from Scottish primary teachers' experiences of physical education, teacher education, school entry and professional development. Sport, Education and Society, 18, 749–766. doi:10.1080/13573322.2011.609165#.Uo-JWdK-2m4

Garrett, R., & Wrench, A. (2008). Connections, pedagogy and alternative possibilities in primary physical education. Sport, Education and Society, 13(1), 39–60. doi:10.1080/13573320701780514

Garrison, J. (2001). An introduction to Dewey's theory of functional 'trans-action': An alternative paradigm for activity theory. Mind, Culture and Activity, 8, 275–296. doi:10.1207/S15327884MCA0804_02

Griggs, G. (2010). For sale – Primary physical education. £20 per hour or nearest offer. Education 3–13, 38(1), 39–46.

Harris, J., Cale, L., & Musson, H. (2012). The predicament of primary physical education: A consequence of 'insufficient' ITT and 'ineffective' CPD? Physical Education and Sport Pedagogy, 17, 367–381. doi:10.1080/17408989.2011.582489
Her Majesty's (HM) Treasury. (2013). Autumn statement 2013. London: The Stationary Office.
Jess, M., & Collins, D. (2003) Primary physical education in Scotland: The future in the making. European Journal of Physical Education, 8, 103–118.
Kirk, D. (2010). Physical education futures. London: Routledge.
Linehan, C., & McCarthy, J. (2001). Reviewing the "community of practice" metaphor: An analysis of control relations in a primary school classroom. Mind, Culture and Activity, 8(2), 129–147. doi:10.1207/S15327884MCA0802_02
MacPhail, A., Gorely, T., Kirk, D., & Kinchin, G. (2008). Exploring the meaning of fun in physical education through sport education. Research Quarterly for Exercise and Sport, 79, 344–356. doi:10.1080/02701367.2008.10599498
Morgan, P., & Bourke, S. (2008). 'Non-specialist teachers' confidence to teach PE: The nature and influence of personal experiences in schools'. Physical Education and Sport Pedagogy, 13(1), 1–29. doi:10.1080/17408980701345550
Mowling, C., Brock, S., & Hastie, P. (2006). Fourth grade students' drawing interpretations of a sport education soccer unit. Journal of Teaching in Physical Education, 25(1), 9–35.
Öhman, M., & Quennerstedt, M. (2012). Observational studies. In K. Armour & D. Macdonald (Eds.), Research methods in physical education and youth sport (pp. 189–203). Abingdon: Routledge.
Östman, L. (2010). Education for sustainable development and normativity: A transactional analysis of moral meaning-making and companion meanings in classroom communication. Environmental Education Research, 16(1), 75–93.
Pollard, A. (1982). A model of classroom coping strategies. British Journal of Sociology of Education, 3(1), 19–37. doi:10.1080/0142569820030102
Pope, C. (2011). The physical education and sport interface: Models, maxims and maelstrom. European Physical Education Review, 17, 273–285. doi:10.1177/1356336X11416728
Quay, J., & Stolz, S. (2014). Game as context in physical education: A Deweyan philosophical perspective. In R. Light, J. Quay, S. Harvey, & A. Mooney (Eds.), Contemporary developments in games teaching (pp. 15–28). London and New York, NY: Routledge.
Quennerstedt, M. (2013a). PE on YouTube – Investigating participation in physical education practice. Physical Education and Sport Pedagogy, 18(1), 42–59. doi:10.1080/17408989.2011.631000
Quennerstedt, M. (2013b). Practical epistemologies in physical education practice. Sport, Education and Society, 18, 311–333.
Quennerstedt, M., Annerstedt, C., Barker, D., Karlefors, I., Larsson, H., Redelius, K., & Öhman, M. (2014). What did they learn in school today? A method for exploring aspects of learning in physical education. European Physical Education Review, 20, 282–302. doi:10.1177/1356336X14524864
Quennerstedt, M., Öhman, J., & Öhman, M. (2011). Investigating learning in physical education – A transactional approach. Sport, Education and Society, 16, 159–177.
Renold, E. (2001). Learning the 'hard' way: Boys, hegemonic masculinity and the negotiation of learner identities in the primary school. British Journal of Sociology of Education, 22, 369–385. doi:10.1080/01425690120067980
Robson, S. (2011). Producing and using video data in the early years: Ethical questions and practical consequences in research with young children. Children and Society, 25, 179–189. doi:10.1111/j.1099-0860.2009.00267.x

Rogoff, B. (1995). Observing sociocultural activity on three planes: Participatory appropriation, guided participation, and apprenticeship. In J. Wertsch, P. Del Rio, & T. Alvarez (Eds.), Sociocultural studies of mind (pp. 139–164). Cambridge: Cambridge University Press.

Rovegno, I., & Dolly, J. P. (2006). Constructivist perspectives on learning. In D. Kirk, D. Macdonald, & M. O'Sullivan (Eds.), The handbook of physical education (pp. 242–261). London: SAGE.

Smith, A. (2013). Primary school physical education and sports coaches: Evidence from a study of school sport partnerships in north-west England. Sport, Education and Society. Advance online publication. doi:10.1080/13573322.2013.847412

Ward, G. (2014). Learning movement culture: Mapping the landscape between physical education and school sport. Sport, Education and Society, 19, 569–604. doi:10.1080/13573322.2012.690342

Ward, G., & Quennerstedt, M. (2014). Transactions in primary physical education in the UK: A smorgasbord of looks-like-sport. Physical Education and Sport Pedagogy. Advance online publication. doi:10.1080/17408989.2014.923991

Appendix 7.

UNIVERSITY OF WOLVERHAMPTON
KNOWLEDGE • INNOVATION • ENTERPRISE

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1st December 2015

To whom it may concern

I am happy to confirm that Gavin Ward was the proposer, lead co-author and theoretical developer of the following two research outputs with which I was involved:

Ward, G. and Griggs, G. (2011) Principles of Play: A proposed framework towards a holistic overview of games in primary Physical Education, *Education 3-13*, 39(5), 499-516.

Griggs, G. and Ward, G. (2012) Physical Education in the UK: Disconnections and connections, *Curriculum Journal*, 23(2), 207-229.

The decision to position myself as first author on the second paper here was taken after external guidance for the purposes of REF submission but does not in fact denote paper leadership and direction in anyway.

Should you require anything further, please get in touch.

Regards

G. Griggs

Dr Gerald Griggs
Senior Lecturer
Institute of Sport

ÖREBRO UNIVERSITET

30th December 2015

To whom it may concern

I would like to confirm that Gavin Ward was the Principal Investigator in the research studies he has submitted for the degree of Doctor of Philosophy by publication.

He took the lead in the research outputs and in conducting and analysing the qualitative research. Gavin Ward showed significant independence as a researcher and was the lead co-author of the following research outputs with which I was involved:

Ward, G., & Quennerstedt, M. (2014). Transactions in primary physical education in the UK: a smorgasbord of looks-like-sport. *Physical Education & Sport Pedagogy* (Published ahead of print).

Ward, G., & Quennerstedt, M. (2015). Knowing in primary physical education in the UK: Negotiating movement culture. *Sport, Education and Society*, 20(5), 588-633.

Should you require anything further, please get in touch.

Regards

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Appendix 8.

Ethics submission form for the School of Sport, Performing Arts and Leisure

Survey input field	Respondent's answer
Name:	Gavin Ward
Department:	Sport and Physical Activity
Project Title:	Investigating Learning as Transaction in an Urban Primary School
Research team:	Principle Investigator - Gavin Ward (SCAPE) Advisor - Primary School Specialist – Dr. G. Griggs (SCAPE Chair) External Research Advisor and Co-Author – Associate Professor Dr. Mikael Quennerstedt (University of Orebro)

1. CATEGORY A
Category A is research where the risks to participants or the researchers are well-known and been well established in research. Authors making ethical proposals should indicate the extent to which procedures being proposed have been used previously. Most methods of research and methodologies that are likely to be used by researchers can be evidenced and consequently the risks to participants versus the knowledge gain should be identifiable.

Undergraduate students and students on taught M levels courses are expected to conduct research classified as Category A. Ethical approval for Category A projects will be considered at subject level by the Subject/Departmental Ethics Sub-committee on an individual basis.

CATEGORY B

Category B is where the risks to participants balanced against the benefits of gathering the data are not clear. Greater emphasis is placed on protecting the well being of participants, including the researchers, but emphasis is also placed on research that is meaningless and adds little value. Category B projects will involve an invasive procedure that has not been used previously in research. Routine tests (blood lactate), where the procedures are well published are classified as Category A. However, it should be noted that blood collection involves a number of health and safety issues that need to be adhered to. Emphasis is placed on the research team to find evidence to demonstrate what the risks are to participants and this is typically done by providing examples where research has been conducted previously.

Department ethics committees can propose that a project is Category B and forward the work to the School ethics committee. Undergraduates will not normally be permitted to carry out Category B projects and therefore the Department ethics committee should suggest to the student and supervisor that methods be modified to fall under the rubric of an A category classification. Category B projects carry greater risk and should involve greater staff involvement and therefore staff should only agree to supervise students for whom they can provide appropriate support.

This is the lowest risk category. The project is classified as a U category if: a) there are no research participants being recruited, b) the risks involved to the researcher are minimal, c) the data being used is already in the public domain, d) ethical clearance for data collection has been granted elsewhere. If the researcher is unsure on the answer to any of the four points above, he/she indicate that the research as A category project.

According to School guidelines, the outlined work is categorised as:

Category B

2. What is the aim of your research?

To investigate movement cultures within Physical Education lessons in an urban primary school.

3. Please confirm that the data collected during your study will adhere to guidelines in the Data Protection Act (1999).

Yes

4. How will your research be conducted. Describe the methods so that it can be easily understood by the SSPAL ethics committee. Please ensure you clearly explain any acronyms and subject specific terminology.

Introduction

This is an observational study (Bryman, 2008) of Physical Education lessons as they occur within the curriculum and provided in their natural school setting. It is not a study of individual teachers' pedagogical expertise or pupils' competence, but one which analyses the collective 'actions' (social and bodily) of pupils and staff. This social interplay within such movement contexts is too complex and comprehensive to capture through observation via field notes and therefore, this study will require filming of Physical Education lessons (Öhman and Quennerstedt, 2012). It is only through repeated viewing of video footage that critical events can be highlighted and analysed (Quennerstedt, et al. 2011). This method of data collection and analysis raises significant ethical issues (Quennerstedt, et al. 2011; Klaar and Öhman, 2012; Robson, 2011) and in recognition of such considerations, this study will adhere the British Educational Research Association (BERA) Ethical Guidelines for Education Research (EGfER) (2011). How this study will address its responsibilities to potential participants will be discussed below:

Child Protection

In this project there are a number of participants from which consent needs to be obtained before video footage can be collected:

- The school as a host organisation – key representative Headteacher
- Parents
- The school staff leading the Physical Education lessons
- Pupils

Prior to entry to the school the Principle Investigator (PI) will present his University CRB certificate and University Identity Badge to the Headteacher as credentials to be admitted onto the school campus (Appendix A). Any additional documentation will be produced as required by school policies on visiting staff and all appropriate school procedures will be followed by the PI.

Dr. D. Griggs will be acting in an advisory capacity and will not be required to visit the school site or view any data collected. Dr. M. Quennerstedt, who works and resides in Sweden, has appropriate credentials specific to Sweden to both work and research within Swedish educational institutions. Dr. Quennerstedt is Principal Researcher within the Studies in Meaning-Making Research Group (SMED) which has conducted and published their work within Swedish secondary and primary education; see for example Almqvist and Östman (2006), Klaar and Öhman (2012) and Quennerstedt, et al. (2011). These studies were conducted following approval by the Central Ethics Committee in Sweden. As co-author, Dr. Quennerstedt will be involved in verifying the PI's analysis of the video footage. Security of the data will be paramount when shared across national boundaries and film footage shared electronically will be password protected.

Data Security and Handling

An opportunistic sample (Bryman, 2008) of Physical Education lessons will be filmed using a University HDD camera and the footage will be transferred to a University supplied, password secured laptop computer (ITR 09935). This will be completed at the end of the day of filming to ensure security of the footage. Digital files on the HDD video camera will be permanently deleted immediately after transfer. Using the video files saved on ITR 09935, critical moments will be selected by the PI and analysis conducted. These sections of film will be edited into a separate digital file and shared with the co-author. Once this process has occurred the co-author will permanently delete his copy of the edited file. This process of data securing and handling will be shared with all participants.

Intrusiveness of Filming

BERA EGfER (2011) emphasise from the outset that all research projects must ensure participants are "treated fairly, sensitively, with dignity and within an ethic of respect and freedom from prejudice" (p5). These will be form the governing values of this research project. Filming in this study will be of Physical Education lessons

which will have occurred regardless of the study, the methodology will become part of an everyday situation within pupils' natural school setting. This promotes ecological validity which is integral to the study and significantly reduces immediate risks of discomfort and harm (Quennerstedt, et al. 2011) although does raise questions into the intrusiveness of filming practices. Robson (2011) suggests that when seeking children's informed consent to film their participation in educational activities opportunities should be offered for children to view them themselves on video and "reflect on how that feels for them." (p183).

During the process of obtaining consent and reducing the impact of observer influence, the PI will visit the school on a consistent day and involve himself as a learning support assistant in classroom based and Physical Education lessons. Becoming part of the class during the lead-up to data collection and adopting a 'least-adult role' (Mandell, 1991 cited by Robson, 2011) is the only viable strategy available to lessen the impact of the PI's presence in the pupils' lives. During this time permission will be obtained from the class teacher to use the University video camera and a University iPad (larger screen for easier viewing) to follow Robson's (2011) guidance and to reduce the tension which may arise from this form of visual methodology. Children will be encouraged to use the video camera and iPad to experiment with and playback their recordings of each other's work so they see themselves as 'active participants' and are in a more informed position to offer their consent (Alderson, 2005; Robson 2011). After these sessions all film footage will be permanently deleted from the hardware before leaving the school premises. This practice will also need to be managed so that it does not interfere with the teacher's usual teaching practices and there will be a point, once consent has been obtain from all participants, for the filming to become less obvious on the everyday, on-going practices with the Physical Education lessons.

At the time of writing two visits have been made to the school in which video cameras and iPads have been used in the manner described above and the children and staff have acted favourably to being filmed, filming others and watching footage of themselves working. The children were very disappointed that the footage had to be deleted and the teacher commented on how the pupils quality of work and engagement in gymnastics substantially increased by giving opportunities for the pupils to watch themselves moving. Mohnsen and Thompson (1997) suggest filming in Physical Education can increase anxiety amongst pupils and Potter (2002) argues using video to collect data has potentially a greater interference in people's privacy than interviews or questionnaires. Both issues will demand consistent consideration by the PI in this project, particularly the level of perceived intrusiveness of filming by the children whilst they are working. It is a fundamental aim of the research not to intrude upon the movement cultures within the physical education lessons. This will demand the PI to establish a distance for filming so as to enable pupils to work without feelings of surveillance. This can only be achieved by regular periods of data collection and dialogue with the teacher and pupils to gauge 'intrusiveness' and by using footage for analysis once the video camera has become an accepted part of the Physical Education environment. This extended time of data collection will aim to establish the camera as part of the PI's identity and lessen his impact upon the actions and events in the observed Physical Education lessons (Robson, 2011).

Obtaining Participant Consent

An information sheet outlining the rationale behind the research and detailing the methodology and handling of data will be provided to all participants (parents, headteacher and school staff), with the exception of the pupils, who will be provided with a Power Point and verbal presentation of the project. This method of sharing information with the pupils aims to provide alternative ways for them to make authentic responses in relation to their voluntary assent (BERA EGfER, 2011). Pupil consent will be obtained anonymously and recorded via pupils writing their name on a piece of paper with a tick or cross next to it to denote their consent (tick for yes; cross for no). There is potential here for power dynamics, created by the age gap between the adults and pupils, to impact upon their decisions to consent to the project (Mauthner, 1997). Whilst such impact cannot be determined, it is important that these dynamics are minimised through clear information and opportunities for pupils to discuss their views with others (Robson, 2011). Filming will be of Physical Education lessons which will take place despite the study and thus, issues of intrusiveness, confidentiality and anonymity will demand clear exploration and clarity for all the participants. The importance of negotiating and registering potential intrusiveness has been discussed above. Issues relating to the protection of confidentiality and anonymity will be detailed in later sections.

Parents at the school have already signed a consent form on their child's entry into the school to declare permission for their child to be photographed and/or filmed and for this footage to be published in a public domain. Parents not agreeing to this use of visual records of their child are recorded and kept on file. Each class teacher has a copy of the appropriate child's name. This form can be seen in Appendix B. It is inappropriate for the proposed study to use such a form as part of it ethical procedures as the agreement is between the school and parents and relates to school's use of video and pictures and importantly refers to the publication of such material in a public domain. A parental consent form (Appendix C) will be used to obtain assumed consent, where parents will be asked to reply if they do not want their child to be included within the research. This is considered appropriate because no overt changes are being applied to the educational experience of the child and film footage will not be published in a public domain. This procedure will be cleared with the Headteacher at the time of requesting consent to conduct the study within their school. The

school is situated in an area of high social and economic deprivation which demands sensitive recognition of power relations between parents and schools created by institutional settings (Robson, 2011). Parents will be supplied with an information sheet on the proposed study and opportunities for parents to engage with the project in different mediums will be provided through, for example opportunities to meet the PI and ask questions in person and through less direct means via electronic communication.

As the key representative and role in charge of the school, seeking consent from the Headteacher will form the first stage of ethical considerations for this study. The Headteacher Consent Form (Appendix D) will be used and any additional school procedures and specific requests made by the Headteacher will be recorded on the form and subsequently followed by the PI. The Teacher Consent From (Appendix E) will be used to obtain permission from the members of school staff responsible for leading the Physical Educations to be filmed. Issues of confidentiality and anonymity will be clearly detailed in the study information provided on all forms. Parents withdrawing their child or children not wishing to take part will not be filmed. This presents some conflict with the 'natural' context of the lesson and will require careful management during filming. Initially, pupils taking part will be grouped together and video frames limited to the teacher's and their actions. Flewitt (2005, cited by Robson, 2011) suggests that including some pupils and excluding other pupils will impact upon the outcomes of the research. From this perspective, unlike the PI and school staff, the pupils will only be able to "signal their views by opting out of the project, rather than positively opting in" (Robson, 2011: p183). However, this study proposes no change to their Physical Education lesson other than asking their permission to opt into being filmed. The only real change will be the grouping of pupils wishing to be filmed and others not want to be filmed.

References

Almqvist, J. and Östman, L. (2006) Privileging and artefacts: One the use of information technology in science education, *Interchanges*, 37(3), 225-250.

British Educational Research Association (BERA) (2011) *Ethical guidelines for educational research*. London: BERA. Available at: http://www.bera.ac.uk/publications/Ethical%20Guidelines [Accessed 22/02/12].

Bryman, A. (2008) *Social Science Research Methods*. Oxford: Oxford University Press.

Dewey, J. and Bentley, A. (1949/1991) *Knowing and the known,* in J.A. Boydstone (Ed.) *The later works 1925-1953* (Volume 16: 1949-1952), Carbondale, IL: Southern Illinois University Press.

Klaar, S. and Öhman, J. (2012) Children's meaning making of nature in an outdoor-orientated and democratic Swedish preschool practice, *European Early Childhood Education Research Journal*, 22(3), 439-454.

Mauthner, M. (1997) Methodological aspects of collecting data from children: lessons from three research projects, *Children and Society,* 11, 16-28.
Öhman, J. and Östman, L. (2007) Continuity and change in moral meaning-making: A transactional approach, *Journal of Moral Education*, 26, 151-168.

Mohnsen, B. Thompson, C. (1997) Using video technologies in physical education, *Strategies,* 10(6), 8-11.

Öhman, M. and Quennerstedt, M. (2012) Feel good-be good: Subject content and governing processes in physical education, *Physical Education and Sport Pedagogy,* 13(4), 365-379.

Potter, J. (2002) Two kinds of natural, *Discourse Studies*, 4(4), 539-542.

Quennerstedt, M., Öhman, J. and Öhman, M. (2011) Investigating learning in physical education: a transactional approach, *Sport Education and Society,* 16(2) 159-177.

Robson, S. (2011) Producing and using video data in the early years: Ethical questions and practical consequences in research with young children, *Children and Society* 25, 179-189.

5. Informed consent:
Participants have been/will be fully informed of the risks and benefits of the procedures and of their right to refuse participation or withdraw from the research at any time.

Yes – please refer to section 4.

6. My project will adhere to issues of confidentiality:

The confidentiality and anonymity of all participants in the work specified above will be

maintained during collection, analysis, dissemination and subsequent storage and disposal of material

I agree

It is essential that the PI makes known any predictable detriment arising from the process or findings of the study (BERA EGfER, 2011). In this regard confidentiality and anonymity present important considerations.

The use of film as a source of data analysis entails that individual pupils and staff can be identified in the analytical phase of the study. Consequently, anonymity cannot be guaranteed and unedited film can leave lesson settings and participants recognisable. Similarly, participants will identify one another by name in the course of their social interactions. This can put participants at risk of identification and potentially expose them to criticism, anxiety and self-doubt (Flewitt, 2005, cited by Robson, 2011). Rigorous data handling and security become essential factors in protecting identities and securing confidentiality. The former have been detailed in Section 4 and all participants will be guaranteed that no film footage or still frames will be published in paper or electronic mediums. Transcripts will be made of verbal and physical interactions, however, in transactional studies the focus is on actions in certain events rather than individual pupils or teachers (Quennerstedt, et al. 2011). Identities in these transcripts will be protected through the use of pseudonyms.

Communication of the research findings will need to be clearly defined in the information sheets and opportunities for dialogue exchange concerning the project between the PI, pupils and their parents. The latter will also need to reflect an explanation of the nature of transactional research, particularly the move from a focus on individuals to, actions in events. This should help to acknowledge and overcome potential power dynamics in relation to the affiliation of the PI to a University, and the potential risk of suspicion by the participants of surveillance of pedagogical practice and pupil competence. The intention to publish findings from the study in academic presentations and journals will be also be made clear and opportunities to view these research outputs will be made available to all participants.

Robson (2011) raises questions in relation to the ownership of visual research data and the need to recognise potential changes in pupils' attitudes as they age. They may become less happy for recordings of their younger selves to be used, it is envisaged that data will only remain in existence until analysis and publication have been fully explored. This may take a number of months, however, it is not envisaged that data will be kept for a period long enough for such concerns by the participants to be raised. Data will be permanently deleted. No copies of the data can be given to any participant on the basis that this will transgress procedures established to protect the identities and confidentiality of other participants. Data is not presumed to be owned by the PI but will remain in his possession and shared with the co-author as described in Section 4.

References

British Educational Research Association (BERA) (2011) *Ethical guidelines for educational research*. London: BERA. Available at: http://www.bera.ac.uk/publications/Ethical%20Guidelines [Accessed 22/02/12].

Quennerstedt, M., Öhman, J. and Öhman, M. (2011) Investigating learning in physical education: a transactional approach. *Sport Education and Society,* 16(2) 159-177.

Robson, S. (2011) Producing and using video data in the early years: Ethical questions and practical consequences in research with young children. *Children and Society* 25, 179-189.

7. A key issue in ethics is the balance between the knowledge gained from the research against the risks to those involved.

Yes, this is useful

This study will be based on methodology informed by John Dewey's pragmatic philosophy, in particular his conception of learning as transaction (Dewey and Bentley, 1949/1991). Studies using transaction as a unit of analysis have not been conducted in Primary School Physical Education within the UK. A transactional approach overcomes the dualisms that tend to prevail when investigating how pupils interact within with their physical, social and cultural environment. When investigating individual, cultural and social aspects of meaning making, avoiding the positioning of one aspect as superior and predetermining the others is problematic. If individuals are the starting point, they tend to appear as being free to form their actions independently of the social and cultural context. Conversely, if the starting point is the cultural context, it often appears as determining individuals' actions and social interactions (Klaar, 2012). Such theories have a tendency to be self-fulfilling in empirical studies. By starting with pupil's actions within certain events within Physical Education and investigating the process of meaning making through transaction, it is possible to develop an empirical platform to comment upon meaning making within educational practice (Quennerstedt, 2011). This type of study has not been completed a Primary School Physical Education context in the UK before and the ethical tensions involved are not sufficiently contentious to negate the opportunity to further knowledge in this

area.

References

Klaar, S. and Öhman, J. (2012) Children's meaning making of nature in an outdoor-orientated and democratic Swedish preschool practice, *European Early Childhood Education Research Journal*, 22(3), 439-454.
Quennerstedt, M., Öhman, J. and Öhman, M. (2011) Investigating learning in physical education: a transactional approach. *Sport Education and Society,* 16(2) 159-177.

8. Have references been provided to show that your method has been conducted before and published?

Yes

The following research projects have pioneered the use of a transactional approach to epistemology within educational institutions or within the subject of Physical Education:

Lidar, M., Lundqvist, and L. Östman (2006) Teaching and learning in the science classroom: The interplay between teachers' epistemological moves and student' practical epistemology, *Science Education*, 90, 148–63.

Lidar, M., Almqvist and L. Östman (2010) A pragmatist approach to meaning-making in children's peer discussions about gravity and the shape of the earth, *Science Education*, 94, 689-704.

Klaar, S. and Öhman, J. (2012) Action with friction: a transactional approach to toddlers' physical meaning making of natural phenomena and processes in preschool, *European Early Childhood Education Research Journal*, 20(3), 439–454.

Klaar, S. and Öhman, J. (2012) Children's meaning making of nature in an outdoor-oriented and democratic Swedish preschool practice, *European Early Childhood Education Research Journal*, 22(3), 439-454.

Klaar, S. and Öhman, J. (in press) Doing, knowing, caring and feeling: exploring relations between nature-oriented teaching and preschool children's learning, *European Early Childhood Education Research Journal*.

Quennerstedt, M. (2012) PE on YouTube: Investigating participation in physical education practice, *Physical Education and Sport Pedagogy*, iFirst Article, 1-18.

Quennerstedt, M., Öhman, J. and Öhman, M. (2011) Investigating learning in physical education: A transactional approach. *Sport Education and Society,* 16(2), 159-177.

9. Have potentially contentious issues been discussed?
If you classified your project as a U category, please give reasons to explain your decision.

Yes.

10. Are there any potential health and safety hazards involved in any of the research processes?

No.

11. Are participants in your study going to be recruited from a potentially vulnerable group?

Yes. If yes you need to include an information sheet and where necessary, an informed consent form. Informed consent forms do not need to be developed in instances where the participants are just being asked to complete a questionnaire.

Please refer to appendices.

12. Are your participants performing tests that require physical activity?

No

Appendix A - Ethics submission form for the School of Sport, Performing Arts and Leisure

Enhanced disclosure form redacted due to confidentiality considerations.

Enhanced disclosure form redacted due to confidentiality considerations.

Appendix B - Ethics submission form for the School of Sport, Performing Arts and Leisure

PARENTAL CONSENT FORM

EDUCATIONAL VISITS AND SCHOOL JOURNEYS
I give consent to my child taking part in normal school activities organised to take place outside the school premises. ☐ YES ☐ NO

MEDICAL CONSENT
I consent to medical or such surgical treatment dee
medical practitioner or to first aid administered to
should occur at a time when my consent to the part
otherwise reasonably be obtained.

INTERNET PERMISSION
I agree to my child having access to the internet with the appropriate guidance and supervision.
☐ YES ☐ NO

PHOTOGRAPHS / FILMING
I agree/disagree to my child having photographs/film taken whilst taking part in school activities / productions for occasional publication on school website and in school newspapers, local newspapers ,TV or any other educational information publications.
☐ YES ☐ NO

Child's Name .....

Signed Parent / Guardian .....Date.....

Parental permission statement for the school to use film and video footage and publish it in a public domain.

ETHNICITY

WHITE	TICK	MIXED	TICK
British (WBRI)		White and Black Caribbean (MWBC)	
Irish (WIRI)		White and Black African (MWBA)	
Traveller Irish (WIRT)		White and Asian (MWAS)	
White European (WEUR)		Any Other Mixed (MOTH)	
Gypsy / Roma (WROM)			
Any Other White (WOTW)		BLACK OR BLACK BRITISH	
		Caribbean (BCRB)	
ASIAN OR ASIAN BRITISH		African (BAFR)	
Indian (AIND)		Any Other Black (BOTH)	
Mirpuri Pakistani (AMPK)			
Other Pakistani (AOPK)		CHINESE	
Bangladeshi (ABAN)		Chinese (CHNE)	
Any Other Asian (AOTH)			
		ANY OTHER ETHNICITY	
		Japanese (OJPN)	
		Korean (OKOR	
DO NOT WISH TO DISCLOSE			

Parent/Carer Information and Child Withdrawal Form

Physical Education Research Project at [name of school redacted].

Project Title: **Learning as Transaction within Primary School Physical Education**

Introduction

Some Year 5 and Year 6 pupils attending [name of school redacted] are invited to participate in a research project. This project aims to learn from pupils as they work in PE lessons. The researchers hope they will be able to improve adults' ability to understand what children may gain from PE.

What is project about?

Gavin Ward is a Senior Lecturer in Physical Education at the University of Wolverhampton and is in charge of the project. He has been a Physical Education teacher in primary and secondary schools from 1995 to 2010. Dr. Mikael Quennerstedt is a very experienced researcher in schools and has completed this type of research before.

What does the research involve?

Physical education lessons will be filmed using a video camera in a way so that it will minimise any potential disruption the teaching or your child's learning.

The project aims to understand learning 'in action' as pupils work in their physical education lessons.
It is not a test of your child's or teacher's ability.

If you would like more information or have any questions please do not hesitate to ask Gavin Ward who is available after school on Wednesdays or contact him by:

Email: [e-mail address redacted] Telephone: [number redacted]

Why has your child been chosen?

The Headteacher and school staff at your child school are interested in supporting the research.

Gavin Ward currently can only visit the school on a Wednesday.

What will happen to the video film?

All film footage will be kept on a University Password Secured Laptop. No other adults or children will be able to view the footage. **Once the film has been watched it will be permanently destroyed**. Notes will be taken from the film – no pupils, staff or schools will be named.

Researching everyday Physical Education lessons minimises any potential risks of discomfort or harm to pupils and staff.

The project has been approved by the University of Wolverhampton Ethics Committee; it will abide by **very detailed, strict child protection procedures and data protection law.**

I have signed a form declaring my wishes concerning pictures and videos of my child. Why am I being asked again?
The school form you signed concerns the publication of film and pictures of your child in a public domain. This project **does not** involve publishing your child's identity into the public domain.

Protecting your child's identity and confidentiality is very important. Only Gavin Ward and Dr. Mikael Quennerstedt, will watch the videos. Both staff have appropriate Child Protection certificates (CRB). Notes from the film will be used in academic and conference presentations, but **no real child, teacher or school names** will be used.

What is the point of the research?
Filming everyday Physical Education lessons is very valuable. Nothing needs to change.

This project may help teachers and researchers to better understand pupils' actions. It is the first study of its kind to be developed within the UK.

The findings of the study will be written-up and may be selected by editors to be published at an academic conference and/or in a journal. You will be welcomed to read any such publications.

Does your child have to take part?
All the children will be given the opportunity to understand the project and talk about it with their teachers and Gavin Ward. If they do not want to take part they are able to say so.

What if I do not want my child to be involved?
Your child will not be deliberately filmed. Only footage containing people who have consented to their involvement in the project will be used.

How can you protect my child's identity and ensure confidentiality?
Your child's name, teacher or school will not be used. All film will be permanently destroyed after it has been watched. Notes will be taken and used to explain the findings which may be published at a conference and/or in an academic journal.

Thank you for taking the time to read this information.

If you **DO NOT** wish your child to take part in this research please complete and return the slip below to your child's class teacher, by 15th April 2013.

Physical Education Research Project at [name of school redacted].

I **DO NOT** want my child to be involved in the above research project.

Child's Name: _____

Signature:_____

Name:_____

Date:_____

Appendix D - Ethics submission form for the School of Sport, Performing Arts and Leisure

Informed Consent for Research Participation - Headteacher

Principal Investigator:	**Mr Gavin Ward**
Research Supervisory Team:	**Dr. G. Griggs (University of Wolverhampton)** **Dr. M. Quennerstedt (Orebro University Sweden)**
Research Cluster:	**Sport Cultures and Physical Education (SCAPE)**
Project Date:	**February 2013 - July 2013**
Project Institution:	**University of Wolverhampton, Department of Sport and Physical Activity, Walsall Campus, WS1 3BD.**
Email:	**[e-mail addresses redacted]**
Telephone:	Gavin Ward Mobile: **[number redacted]**
Project Title:	Learning as Transaction within Primary School Physical Education

Introduction

Pupils and staff at [name of school redacted] are invited to participate in a research project. Before you decide whether you give permission for members of your school to be involved, it is important for you to understand why the research is taking place and what it will entail. Please take time to read the following information and discuss it with others if you wish. If you or your staff would like more information or if you have any further questions, please do not hesitate to ask Gavin Ward. If at this point the information is still not clear, you may want to ask the Research Supervisors.

What are the roles of Mr Gavin Ward, Dr. G. Griggs and Dr. M. Quennerstedt in the project?

Gavin Ward is the Principal Investigator of this project and has overall responsibility for data collection, analysis and writing up of the findings. Dr. G. Griggs is a primary school Physical Education Specialist and chair of the Research Cluster at the University of Wolverhampton and has an advisory role. Dr. M. Quennerstedt is an expert in the analysis process and will have an advisory and corroboration role. All staff are qualified to undertake these roles and have appropriate CRB clearance.

What is the aim of the research?

The aim of this research is to analyse learning 'in action' of pupils in primary Physical Education lessons. It is not a study involving judgements of the pedagogical expertise of staff or pupil competence. The project will use every-day Physical Education lessons as the starting point to explore possible meanings pupils make of their interactions with the physical and social environment. This may help teachers and researchers to better understand pupils' actions.

Why has your school been chosen?
Primary school Physical Education is an under-researched area within Physical Education. It is of particular interest to the Principle Investigator and this project will be the first to have been developed within the UK and stands as an innovative child-centred way to understand learning within Physical Education.

Do the pupils and staff have to take part?
The value of the project lies in the in-situ collection of data by video film, within authentic Physical Education provision. Nothing needs to change and researching everyday Physical Education lessons minimises any potential risks of discomfort or harm to pupils and staff. Parents will be asked to complete a form if they do not want their child to take part. Your school staff and pupils will also be asked for consent to be involved. The principal investigator will respect and, without further question, accept any decision to withdraw.

What will happen if I agree for members of your school to participate?

- The principle Investigator will spend a period of time getting to know the staff and pupils involved in the project to minimise issues of observer influence.
- Pupils will then be filmed using a video camera within their Physical Education lessons. Pupils who do not want to be filmed will not be involved. This will necessitate liaison between staff and the Principal Investigator and sensitive groupings of pupils.

How will the participation of members of my school be kept confidential?
The project will be conducted using the code of conduct of the British Education Research Association. All information collected during the time of the research will be kept strictly private and secure. Information that might pertain to the identity of the school or specific geographical location will be maintained in the strictest confidence. All video film will be transferred from the camera and then stored on a University of Wolverhampton password secured computer. Footage will then be deleted from the camera. Following analysis of the film footage, the video files will be permanently deleted from the University Computer. All pupil and staff identities will be kept confidential by not using their real names in transcripts of the film footage. Only Gavin Ward and Dr. Mikael Quennerstedt will see the film footage. The analysed data will be used to develop academic presentations and publications, in which film transcripts will feature as data. The same strict levels of confidentiality and security are applicable to all publications, which you will be welcomed and entitled to read.

<u>Additional local conditions for consent:</u>
Please place a cross box to confirm that you:

have read and understand the information sheet for the above study and have had opportunity to ask questions. ☐

understand that participation is voluntary and that I am free to withdraw at any time, without giving any reason. ☐

agree for you school to take part in the above study. ☐

Name:

Signature: Date:

Appendix E - Ethics submission form for the School of Sport, Performing Arts and Leisure

Informed Consent for Research Participation – School Staff

Principal Investigator:	Mr Gavin Ward
Research Supervisory Team:	Dr. G. Griggs (University of Wolverhampton) Dr. M. Quennerstedt (Orebo University Sweden)
Research Cluster:	Sport Cultures and Physical Education (SCAPE)
Project Date:	February 2013 - July 2013
Project Institution:	University of Wolverhampton, Department of Sport and Physical Activity, Walsall Campus, WS1 3BD.
Email:	[e-mail addresses redacted]
Telephone:	[number redacted]
Project Title:	Learning as Transaction within Primary School Physical Education

Introduction

Teachers and pupils attending your school are invited to participate in a research project. Before you decide whether you consent to be involved, it is important for you to understand why the research is taking place and what it will entail. Please take time to read the following information and discuss it with others if you wish. If you like more information or have any questions please do not hesitate to ask Gavin Ward. If at this point the information is still not clear, you may want to ask the Research Supervisors.

What are the roles of Mr Gavin Ward, Dr. G. Griggs and Dr. M. Quennerstedt in the project?

Gavin Ward is the Principal Investigator of this project and has overall responsibility; data collection, analysis and writing up of the findings. Dr. G. Griggs is a primary school Physical Education Specialist and chair of the Research Cluster at the University of Wolverhampton and has an advisory role. Dr. M. Quennerstedt is an expert in the analysis process and will have an advisory and corroboration role.

What is the aim of the research?

The aim of this research is to analyse learning 'in action' of pupils in primary Physical Education lessons. It is not a study involving judgements of pedagogical expertise or pupil competence. The project will use the context of everyday Physical Education lessons as the starting point to explore possible meanings pupils make from their interactions with the physical and social environment. This may help teachers and researchers to understand and respond to pupils' actions.

Why have your class of pupils been chosen?
Primary school Physical Education is an under-researched area within Physical Education. This project will be the first to have been developed within the UK and stands as an innovative child-centred way to understand learning within Physical Education. Gavin Ward is only able to visit the school on a particular day.

Do I have to take part?
The value of the project lies in the in-situ collection of data by video film, within authentic Physical Education provision. Nothing needs to change. It minimises any potential risks of discomfort or harm to pupils and staff. The principal investigator will respect and, without further question, accept any decision to withdraw.

What will happen if I agree to participate?
Gavin Ward will spend a period of time getting to know staff and pupils involved in the project to minimise issues of observer influence. Physical Education lessons will then be videoed. Pupils identified by staff, whose parents have not agreed for their child to be part of the project, will not be filmed. This will involve liaison between school staff and the Gavin Ward and sensitive groupings of pupils.

What are the possible benefits of taking part?
Analysing the meanings pupils make of their interactions with their physical and social environment may contribute to an improved understanding of pupil actions, which may inform future pedagogical practice.

How will you protect identities and ensure confidentiality?
The project has been approved by the University of Wolverhampton Ethics Committee; it will abide by very detailed, strict child protection procedures and data protection law.

All film footage will be kept on a University Password Secured Laptop. No other adults or children will be able to view the footage. Once the film has been watched it will be permanently destroyed.

Protecting the identity of the school, staff and children is very important. Only Gavin Ward and Dr. Mikael Quennerstedt will watch the videos. Both staff have appropriate CRB clearance.

Children's names, school or staff names will not be used. All film will be permanently destroyed after it has been watched. Notes will be taken and used to explain the findings which may be published at a conference and/or in a journal. You will be welcome to read any of these publications.

Please place a cross box to confirm that you:

have read and understand the information sheet for the above study and have had opportunity to ask questions. ☐

understand that participation is voluntary and that I am free to withdraw at any time, without giving any reason. ☐

agree for to take part in the above study. ☐

Name:

Signature: Date: